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ABSTRACT

As part of a Universal Availability of Publications (UAP) program, this report describes the current situation in international interlending and possible future models. From a review of literature and statistics previously collected, and a 1979 study of 15 international supply centers, it is concluded that international loan demand is increasing rapidly and that satisfaction rates and speed of response vary greatly. Secondly, two further studies are described which evaluate the extent to which distance affects speed of supply in international loans. It is reported that in 1979/80 no significant difference was found between supply time from India to five other Asian countries, and supply time from the British Library Lending Division to the same Asian countries. Based on data collected in the above studies, a discussion of factors relevant to the planning of international availability is presented. The components and requirements of an international supply system, photocopying of materials, cost recovery, barriers to international availability, and the effect of technological development on international lending are among the factors considered. Finally, several possible patterns of international availability are identified and evaluated, including worldwide, regional, national, and cooperative interlending models. A major distinction is made between copiable and non-copiable materials in these models of international availability. (ESR)

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THE INTERNATIONAL PROVISION AND SUPPLY OF PUBLICATIONS

prepared by

Maurice Line

with

Brian Kefford and Stephen Vickers

GENERAL INFORMATION PROGRAMME AND UNISIST

United Nations Educational, Scientific and Cultural Organization

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PREFACE

The study reported here was carried out on a contract given to the International Federation of Library Associations and Institutions by Unesco in 1979. It forms part of the research conducted for the Universal Availability of Publications (UAP) programme, and follows and complements the study previously done, also on contract to Unesco, on National interlending systems.(1)

The report was written by Maurice Line, Director of the IFLA Office for International Lending, with the assistance of Brian Kefford, Assistant in the Office, and Stephen Vickers, researcher on the UAP programme. It was submitted to Unesco in draft in October 1980 and revised in the light of comments in August 1981.

Mr Kefford was responsible for the literature review summarized in 2.1, for the survey of centres of international supply (2.3) and for sections 2.4, 2.5 and 2.6. The study of transmission times in Asia was supervised by Mr Vickers. Other data on international satisfaction rates and supply times as shown by the experience of the British Library Lending Division were collected by staff of the Lending Division; this information is reported in 2.2 (final paragraphs) and 3.2.

Grateful acknowledgement is made to the British Council and its offices in Asia for their help in the survey of transmission times in Asia (3.3), and to the document supply centres that responded to the questionnaire on their activities and performance (2.3).

The opinions expressed in this document are those of the authors and not necessarily those of Unesco.

November 1981

(1) LINE, Maurice B. and others. National interlending systems: a comparative study of existing systems and possible models. Paris, Unesco, May 1980, p. xx, 134.

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1. INTERNATIONAL AVAILABILITY: THE NEED FOR IMPROVEMENT

1.1 Universal availability of publications and worldwide availability

It is accepted that social, economic and industrial development depend critically on information. Without speedy access to relevant information, developed countries cannot maintain their position and, even more important, developing countries cannot improve their lot. The increasing production and consumption of information are major features of the modern world, and will grow in importance with the increasing application of technology to agriculture and industry and the growing complexity of society. Information knows no national boundaries, and access to information must be viewed as a worldwide matter.

A great deal of information is stored in the form of publications, whether these be printed paper, microform, audio-visual material of one kind or another, or electronically stored data. To improve the availability of publications is the aim of the Universal Availability of Publications (UAP) programme, initiated and developed by the International Federation of Library Associations and Institutions (IFLA) and supported by Unesco as well as various national bodies.

The concept of UAP is that all published works, whenever and wherever published should be available to any individual, whenever and wherever he wants them. Availability must begin locally; the individual should be able to acquire for himself or have local access through libraries or similar sources to a majority of the publications he needs. What cannot be provided locally should be provided nationally, but for reasons elaborated below, national provision too must be supplemented, by access to sources of supply in other countries. Universal availability cannot therefore be attained, or even improved beyond a certain level, except on a worldwide basis, and it is with worldwide provision and availability that this report is concerned.

Provision is inseparable from availability; whatever systems of supply are developed, they are useless unless the publications wanted exist in an institution that is capable of supplying them. Although much of the evidence presented in this report relates to supply, the main concern is with possible patterns of provision over the world that could achieve effective international supply, rather than with the methods or mechanisms of supply.

It must be emphasized strongly at the start that international availability must always supplement national provision; just as national provision can never be a substitute for adequate local provision, so the best international system can never be a substitute for adequate national provision. Dependence on foreign sources of supply for more than a small proportion of needs for publications is undesirable in principle, and in practice it is nearly always more costly and usually slower than national provision. There are exceptions to this: there are cases where libraries in one country can obtain items more quickly from abroad even when the items are known to be held in the country itself, but these examples illustrate the need to improve the national systems in question. Moreover, international availability cannot be fully effective unless effective national systems exist, to ensure that there are mechanisms both for supplying and for requesting documents to and from abroad.

Different aspects of national availability are the subject of several studies conducted as part of the Universal Availability of Publications programme. These aspects are national interlending systems, national acquisition policies and systems, and national repository plans and programmes. The present study complements these by considering the international aspects of UAP.

1.2 The growth of international lending

The main indicator of the need for international availability is international lending.(1) This appears to have grown very rapidly in recent years. Although no good statistics are available either for the current level of traffic (perhaps in the region of 1 million requests a year) or for its rate of growth, it is nevertheless clear that international lending is growing fast and will continue to grow.

Reasons for this are not hard to find; they are similar to those that account for the growth of interlibrary lending generally. The major factors are the increased output of publications, a decline in the level of self-sufficiency on the part of many individual libraries as the volume and cost of publications grow faster than their budgets, and, at least as important as either of the other factors, dramatic improvements in bibliographic control. Improved bibliographic control leads not only to the availability of a greatly expanded number of references to items, but it also increases the scatter of references among works, journals in particular. Thus, the user is able to become informed of far more items relevant to his work than would have been the case ten years ago, and these items are likely to be scattered among a much larger number of journals, including more and more that his own library does not have.

It might be thought that although the self-sufficiency of local libraries may be declining, national self-sufficiency in library provision should be and is increasing. This might be so if all countries had well-planned and efficiency running national acquisition and interlending systems, but this is by no means the case. However rapidly countries improve their systems of supplying publications (now often referred to as document supply systems), the improvements are always likely to lag well behind those in bibliographic control, which can be achieved more cheaply, can be done internationally - that is, developed countries can improve the supply of bibliographic references to other countries - and can be commercially profitable.

There is another very important factor. Increased national self-sufficiency, allied to an improved document supply system - self-sufficiency in provision without efficient document supply is of very limited value - stimulates and encourages interlibrary loan demand. The greatest demand occurs in the most developed countries. Moreover, a comparison of the volume of interlibrary loan demand in countries with similar populations and a similar state of development indicates clearly that one of the biggest determinants of demand is efficiency of supply. The better an interlibrary lending system is, not only will it attract more requests, but these will include a larger and larger number of requests for "difficult" items. As a result, although the proportion of interlibrary loan requests that can be satisfied nationally may increase substantially, the number that are not satisfied will also increase.

If international loan requests can be expected to increase in developed countries, the increase in developing countries is potentially much larger, as literacy and education develop, together with industry and research generally. However, there are several constraints on the growth of international loan demand. One of the principal constraints is the expectation of considerable delay, which may be too long for the purposes of many users. The second constraint is shortage of currency to repay lending libraries - a problem not confined to developing countries. The third problem is restrictive copyright legislation, which may make it difficult for some countries to request photocopies and for others to supply them; the mere expectation of difficulties may inhibit demand. Other barriers include the absence or inadequacy of appropriate machinery for requesting, particularly in countries where there is no national

(1) The term "international lending" is used to include photocopying throughout this report.

interlending centre, and where the onus is on individual libraries; and the fact that a requesting library, in some countries the librarian himself, may be responsible for all items borrowed in this way, a responsibility that is at best unattractive and at worst unacceptable.

These constraints are greater than those on national interlibrary lending systems. Consequently, if they could be reduced or removed, the effect would be greater. However, one proviso must be made here. If another country can give a better service to users than the one where they live, even though the required items are theoretically available in their country, it may be used to compensate for an inadequate national service. It seems likely that a large number of requests that are at present made to other countries could be satisfied within the country where the request originated, and to this extent some of the likely growth in international lending may be balanced by some reduction as national systems improve and local resources are more used.

1.3 The need for improved international availability

Whatever the present extent of international lending, and whatever its rate of future growth, the actual figures are not of prime importance. It is quite clear that the volume of traffic is very large, and is extremely unlikely to decline; and it cannot be too strongly emphasized that, however good local libraries and national interlending systems are, international availability is essential if document supply is to be adequate. This is obvious if it is considered that no country can acquire all the publications of any other country, let alone all other countries, although there is a certainty that some publications that are not acquired will be wanted sooner or later. Even if only relatively few are wanted, some means of obtaining them is required. There is an equal certainty that, however good a country's national acquisition policy may be from a given date, its users will want some past publications that have never been acquired. Conversely, just as every country is going to need some publications, current and past, that it does not have, so every country is going to have in its libraries some publications that are unavailable in many other countries - in some cases, in any other country.

The need for improved international lending can perhaps be illustrated by reference to the United Kingdom. The United Kingdom has a well-developed and long-established library system, and although library budgets have been reduced in relative terms in recent years - a phenomenon by no means confined to the United Kingdom - the number of books acquired by libraries in the country is still very large. Furthermore, the national library makes efforts to ensure extensive central provision for interlibrary loan purposes of journals, English-language books, report literature, conference proceedings, official publications and music. The interlibrary lending system has achieved increasing self-sufficiency since 1962/1963, the first full year of operation of the National Lending Library for Science and Technology, which joined with the National Central Library in 1973 to form the British Library Lending Division. In spite of this, it made 22,000 requests to other countries in 1978/1979, four times as many as in 1962/1963. If the supply of publications from abroad had been better - that is, if the probability of satisfaction had been higher and the expectation of delay had been less - many more requests would have been made, since about 80,000 more requests were neither satisfied within the United Kingdom nor sent abroad.

1.4 The case for planning worldwide availability

International availability needs to be improved, but does it need to be planned? This question can be divided into two parts: procedures and provision. It is easy to make a case for the planning of international lending procedures. Standardized

and accepted procedures and forms can make the operations of requesting and supplying much simpler and smoother. In theory, every country could use its own request form, determine its own period of loan, use surface mail or air mail as it thought fit, and so on. If this happened on a large scale - in some countries it does happen - the net result would be much waste of time, confusion, delay in supplying and returning loans, and reduced willingness to lend. If libraries are to be asked to co-operate at an international level, the task must be made as simple as possible, and this can best be done by the establishment, acceptance and observance of a set of principles and guidelines..

The International Federation of Library Associations and Institutions revised its rules for international lending in 1954. These became gradually out of date as the volume of traffic grew and the use of photocopying increased very rapidly. They were accordingly revised by the IFLA Office for International Lending, and the new Principles and Guidelines for International Lending(1) were agreed by the IFLA Section on Interlending in 1978. Since then they have been widely publicized, and have been reprinted in library journals in at least 12 countries and 8 languages.

There are also good and obvious reasons for designating or establishing national centres through which international loan requests - both outgoing and incoming - are channelled. Not only does this make it much easier to observe the IFLA Principles and Guidelines, but it helps to ensure that foreign countries are not asked for items that could be supplied nationally. This does not matter unduly for photocopies, which can be sent to other countries cheaply and quickly and do not have to be returned, but it is very important for loans, which are expensive to send, and which libraries may be unwilling to release for long periods.

However, standardized procedures and national centres, even if they apply to all countries, do not in themselves constitute an international availability system, because they do not include provision. Just as national interlending systems must ensure accessibility and availability, and must therefore consider optimum modes of provision, so must international systems if they are to be regarded as systems at all. The justification for international planning of this kind is more complex and less obvious.

Why should not countries apply wherever they wish for wanted items? One can envisage a sort of free market in which each country shops where it wishes, and from which may emerge a satisfactory if not perfect solution as supply moves to meet a demand. The free market exists now; the emergence from it of a good solution might occur in a truly economic situation, where trade is conducted for profit and where therefore there is an incentive to improve supply, possibly by creating new sources of supply. There are indeed strong arguments for cost recovery for international lending, but it is unlikely that it would ever be profitable enough to attract commercial suppliers. The ordinary laws of the market do not therefore apply.

In any case, even with a free choice and with no planning, countries may still need some guidance as to where best to send their requests. The fact is that at present supply is often very slow and uncertain. If international availability is to be improved, it cannot rely only on better procedures. The wanted material must be <u>accessible</u> - the libraries that hold it must be able and willing to supply it. Before it can be either accessible or available, it must have been <u>provided</u> in the first place. Improvements in provision are therefore necessary, and these may require, or be aided by, planning. At the least, some guidance as to the best options would be helpful.

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(1) International lending: principles and guidelines for procedure (1978). <u>INFLA journal</u> (Munich), Vol. IV, No. 4, 1978, pp. 377-382.

There are already examples of plans for international co-operation in provision. These may be seen at their most advanced level to date in the Nordic countries, where substantial progress has been made in planning, if not yet in practical results. Proposals are also being actively considered for co-operative provision of some materials within the European communities, and suggestions for regional co-operation have been made also in the Arab States, South-East Asia and Latin America. The concept of international planning appears therefore to be accepted, although there is a great deal yet to be achieved. Moreover, all the examples above are of regional planning, not worldwide planning, which may be necessary if worldwide availability is to be achieved.

An international availability plan should be designed with the future in mind. It should not therefore be based on the assumption that important factors in the present situation will not change within the next decade or two, if the likelihood of change can be foreseen. Nor on the other hand should it be based on the assumption of radical change that may never occur, or that may not occur for 15 or 20 years. It is only too easy to design idealistic systems for a future that does not evolve as expected, and to leave unmet the needs of the immediate unforeseeable future.

1.5 The present study

Ideally, a study such as the present one would have been based on a substantial collection of valid and reliable data on the present situation, and on a detailed set of projections for the future. The severe deficiency of statistics made such an approach impossible. The study has therefore taken the following form. First, as full a statement has been provided on the present situation as could be obtained from already available information: the collection of statistics made by the IFLA Office for International Lending and published articles relating to international lending and its operation. Secondly, this information was supplemented by small surveys by the British Library Lending Division and a questionnaire sent to existing centres of international supply. Thirdly, studies were made of transmission times between countries, since the extent to which distance affects speed of supply may be a critical factor in deciding between different systems and sources of supply. Finally, using the data collected in the above studies, several possible patterns of international availability were identified, and an analysis made of their relative advantages and disadvantages.

2. THE PRESENT POSITION*

2.1 International demand and availability as seen through the literature

A full review of the literature of international interlibrary lending was conducted for this study. The review is being published separately. This section summarizes that information and describes the present situation as seen through the literature.

Most published information on international interlibrary lending comes from Europe, although even in Europe little was found on some southern European countries (Greece, Portugal, Spain, Turkey, Yugoslavia). Information on the USSR was almost all derived from an Anglo-Soviet conference held in 1978. Very little information was found on developing countries; more surprisingly, information was very scarce on the United States of America, Canada, Australia and New Zealand - areas where international lending is known to be extensive. It is also apparent that the literature of international lending depends heavily on seminars and conferences, from which the only available information on many countries was derived. Reports and journal articles relating specifically to international lending are few. There are however two exceptions: the British Library Lending Division regularly reports its own international activities, and those of other organizations and countries, in its journal, Interlending review; and IFLA journal publishes reports from the IFLA Office for International Lending, as well as other occasional articles on international lending. Despite the large gaps in the literature mentioned above, a growth in literature output is quite evident and most relevant literature dates from the last five years.

Most of the literature of international lending is descriptive, recounting what is happening without analysis or criticism and without suggestions for change, though this does not mean that there is never some actual or implied comment. In recent years, however, a certain amount of prescriptive literature has appeared, suggesting what ought to be happening in international lending. This has originated largely, but not wholly, from IFLA's Section on Interlending and in particular from its operational arm, the IFLA Office for International Lending. This office produces both descriptive literature, e.g. statistical reports, and prescriptive matter, e.g. a set of guidelines for international lending procedures. The prescriptive literature deals with both worldwide interlending systems in general and with specific topics, e.g. payment for loans.

Descriptions of international lending in 19 European countries are given in the proceedings of the Western European Seminar on Library Interlending, 1973.(1) A small number of these countries were well organized for interlending, nationally and internationally, while some countries dealt with very small numbers of requests because they had no formal operational system for international lending. Typically, a limited number of major libraries (between five and ten) were dealing with most international requests. Apart from this seminar, published information from European countries comes mainly from countries that are highly organized or centralized in their international interlending, e.g. the Federal Republic of Germany, the Scandinavian countries and the United Kingdom.

Statistics on interlending between French libraries have been collected regularly since 1975. A report on the most recent survey(2) shows that in 1979 French universities and other large libraries received 5,173 loans from abroad and supplied 9,011; to these figures are added 7,929 items sent abroad and 400 received by the Centre National de Prêt of the Bibliothèque Nationale. (The Centre National de la Recherche Scientifique satisfies however many more international requests: see 3.3.)

* References in this section are listed at the end.

A detailed study of international interlending requests sent to the Federal Republic of Germany was made in 1977,(3) particularly those received at the seven regional union catalogue centres. The number of requests received was high - an estimated 100,000 per annum; 45 per cent of them came from other German-speaking countries. Fifty-five per cent of all requests were for non-German material; 54 per cent were for journals. The actual overall satisfaction rate was probably below 65 per cent.

The Scandinavian countries are well documented in the literature.(4, 5, 6, 7) An unusual feature of international lending in Scandinavia is that national boundaries are not recognized for interlending purposes and requests pass freely between countries in the region. Fifty per cent of international loans received in Scandinavia come from within the region, although most of them are for non-Scandinavian material.(5) Through the Scandia Plan and Nordinfo, efforts had been made to improve both the availability of documents and the means of locating them within Scandinavia. Plans for a regional interlending collection have been considered impractical (see 3.4).

The United Kingdom is highly centralized in its international lending activities, which are described in articles on the overseas services of the National Lending Library for Science and Technology(8) and of the British Library Lending Division(9, 10) (which incorporates the former NLLST). When the NLLST started an overseas photocopy service in 1967, there were 9,700 photocopy requests in one year; the growth of this service is charted in these articles, and the number of requests received had risen to over 500,000 per year by 1979. Almost half of all demand was coming from Western Europe, but the United States of America was the largest single user. A shift in demand towards journal articles and therefore towards greater use of photocopying had been detected.

An Anglo-Soviet Conference on Library Co-operation held in 1978 included several papers(11, 12, 13) on interlending in the USSR. A national centre maintains national union catalogues and co-ordinates international lending, although requests are not necessarily channelled through it: individual Soviet Republics and some large libraries have direct international links. Large-scale acquisition of foreign literature was made in order to reduce the need for international borrowing.

Information on interlending and union catalogues in the Soviet Union and the socialist countries of East Europe is to be found in the papers from a series of three conferences on this topic.(14) International loan requests to other countries are usually channelled through one or a few centres, though requests from abroad may be sent direct to a much larger number of libraries. National union catalogues of foreign literature are maintained so that requests are not sent abroad, and precious foreign currency expended, unnecessarily. To facilitate international lending between these countries, a handbook on libraries that receive international requests has been produced.

The United States of America, which is decentralized for international lending, produces very little literature on this subject. It has been pointed out(15) that the United States of America has concentrated on improvement at the national rather than international level, relying on the large foreign stocks of its many large research libraries. International lending in the Caribbean is at a very low level and more usually takes place with countries beyond the region than within it.(16) Activity is also at a relatively low level in South America, but the regional medical centre, BIREME, situated in Brazil, deals with large numbers of international requests.(15) In South-East Asia international demand is low and shows a typical dependence of developing countries on the developed world.(17)

A few observations on trends in international lending practice can be made on the basis of the descriptive literature of international lending. Figures given

for the total international lending activity broadly indicate considerable growth in volume. For example, the figure of 55,000 requests received in the Federal Republic of Germany in 1971(1) compares with a figure of 100,000 in 1978.(3) The most steeply rising figures are those for requests received at the British Library Lending Division (from 9,700 in 1967(8) to 545,000 in 1979/1980(18)), but these cannot be taken as typical. However, the number of requests sent abroad from the Lending Division is also rising steeply (7,700 in 1974,(9) 21,000 in 1979/1980(18)) and is probably not untypical. It seems clear that demand rises much more steeply on supply centres that are well prepared to accept international requests, e.g. the British Library Lending Division and BIREME,(15) than is the case generally.

Despite increases in volume, there seems to be little change in the systems that support this growth. This can be observed in Scandinavia, where the interlending systems remain the same (despite discussion of a possible Nordic document supply centre) and growth continues within and beyond the region. A shift of emphasis has taken place in France, with the creation of the Centre National de Prêt, whose functions are more closely related to the needs of international lending than its predecessor, the Service Central des Prêts.(15) The need for national centres to co-ordinate international lending has apparently been recognized in a few countries, notably Brazil.(15)

Other descriptive literature includes reports on three surveys of postal times for international lending made by the British Library Lending Division (see 3.2) and three reports on international lending statistics have been made by the IFLA Office for International Lending (see 2.2). The latest of the statistical surveys, relating to 1978 and covering 59 countries, found that demand was increasing, but satisfaction rates were often under 70 per cent.

On a more general level, a set of International Lending: Principles and Guidelines for Procedure has been approved within IFLA and widely published.(19) These include the need for effective national systems, including a national centre, as a basis for international lending. In the practical sphere, emphasis is placed on simple, efficient procedures and fast supply of requested items. To foster efficient procedures, a new international loan request form has been devised and made available.(20) Similarly, guides to international centres have been published.(21, 22)

Attention has also been focused on the need to recover costs, at least to some extent, for international loans;(23) on whether national centres can be bypassed where national union catalogues are widely available;(24) on the relative roles of national and international interlending systems, including the possibility of regional (supranational) collections;(25, 26) and on the influence of new technologies.(27) Thinking on international lending has clearly been given impetus by the establishment by IFLA of a permanent Office for International Lending. The trend appears to be away from an emphasis on union catalogues (though these will still be necessary) towards the establishment of document collections designed for rapid satisfaction of most requests; away from regional (supranational) collections to well-planned national and totally international collections; away from "free", but slow, supply of documents towards fast, efficient services for which the borrower will pay a charge; in consequence, away from loans and towards photocopying. The increasing emphasis on efficiency has led to the introduction of standard international loan request forms and a new set of rules on international lending, both of which have been major steps forward.

The literature of international lending demonstrates that the increasing scale of international lending has engendered more description and discussion of the subject. From discussion there has emerged a clear realization that international lending needs to be planned more systematically.

2.2 Recent statistical surveys of international lending

There is a severe shortage of statistics on international lending; such statistics as exist are neither comprehensive nor totally reliable. The best data available are those collected by the IFLA Office for International Lending, which has attempted to gather statistics at intervals from 1973. So far, three surveys have been completed: a pilot inquiry in 1973,(28) as a result of which the questionnaire was revised, and further ones in 1977(29) and 1979(30), using the revised questionnaire. The data refer to 1972/1973, 1976 and 1978 respectively.

The questionnaires were not returned at all by many countries, and many others could send in only partial returns, in most cases because international lending was not centralized and they had no way of collecting the information. This fact makes the figures for some countries such as the United States of America almost useless, since they completely fail to reflect the large numbers of international loan requests received from abroad. It also makes the estimation of total international traffic a matter of guesswork. The best, very rough, guess that can be made is around one million a year. It can hardly be less than 900,000, since the 15 supply centres examined for the present study (see 3.3) received 750,000 requests from other countries. The upper limit is much harder to estimate, but since international loan demand appears to be concentrated on a relatively few developed countries - United Kingdom, United States of America, Union of Soviet Socialist Republics, the Federal Republic of Germany and France - and on a limited number of supply centres, it is unlikely to exceed 1.2 million.

That international lending demand is concentrated on a few developed countries is quite clear, not only from the statistics but because they are the most obvious sources - they produce most publications and they are best organized to supply publications of their own and other countries. Much interlending is between neighbouring countries, such as the Nordic countries, or German-speaking countries in Central Europe, but there are many transactions between distant countries.

It was stated earlier that international lending was growing rapidly, although there are no complete figures on this. The IFLA surveys showed an increase between 1972/1973 and 1978 of 60 per cent in satisfied international requests. The third IFLA survey showed some increase in demand from developing countries, but the total figures are small. The increase of demand on the British Library Lending Division, from 208,000 in 1973/1974 to 520,000 in 1979/1980 does not seem to have been generally paralleled in other countries, but even if only the United Kingdom had experienced an increase the world increase in six years would nevertheless have been about 310,000, a rate of growth of 50,000 a year. Any transfer of demand from other countries will surely have been more than outweighed by increased demand on most countries.

The surveys conducted by IFLA showed a very wide variation in satisfaction rates, for both requesting and supplying countries. Most of the figures fell between 60 and 95 per cent; the spread between these proportions is fairly even. There are some very low figures, and a few extraordinarily high ones; in most of the extreme cases there is a special explanation. Great caution must be used when interpreting satisfaction rates, not only because of the incompleteness (and in some cases known inaccuracy) of the data, but because libraries normally apply abroad only in cases of real need and where there is considered to be a good probability of obtaining the item within a reasonable time. A much better international supply system would attract far more demand, but it might not increase the satisfaction rate significantly beyond a certain level. Indeed, it might reduce it, at least for a time, because it would encourage more difficult requests. For similar reasons it would not be fair to compare the performance of different countries by looking at their satisfaction rates only: a country that is supplying, say, 100,000 items a year with a satisfaction rate of 80 per cent is almost certainly giving a much more valuable service than one that supplies 10,000 with a satisfaction rate of 90 per cent.

The speed of supply experienced by requesting countries, which was studied only in the first survey, also showed great variation, from two weeks to six months or more. However, most items were supplied within five to nine weeks. If it is true that the maximum elapsed time between the receipt of a request and the supply of the item by the supplying library was two weeks, and assuming that delays in requesting libraries did not normally amount to more than two weeks, an explanation needs to be found for the long total supply times. The most obvious reasons are that surface mail was used instead of air mail for loans, and that in some countries requests had to be sent to a number of libraries before they could be supplied. A more detailed study of requests and the time they spend in each part of the requesting and lending procedure would be needed to establish precisely where delay occurs and why.

Also in the first survey, countries were asked which categories of material caused most problems. "Some recent publications" were mentioned by several; this is understandable since libraries are often unwilling to lend, particularly to other countries, items that they have only recently acquired and that may be wanted at any time by their own users. Pre-1900 books were also mentioned; this is also understandable, since these are more likely to be rare, valuable or fragile. Theses are often difficult to obtain because they are frequently available from only one institution - the academic institution where the research was undertaken - and many are restricted for one reason or another. The same applies with less force to report literature which has, like theses, the problem of inadequate bibliographic control. Finally, conference proceedings were mentioned; bibliographic control of these is especially poor, many are issued in "semi-published" form (that is, duplicated typescript rather than commercial publication), and some are not published at all, although the conferences in question may be widely publicized.

To supplement the IFLA statistical surveys, a small survey was carried out in August 1980 by the British Library Lending Division of the time taken to receive items requested from foreign libraries. These figures are reported here rather than in the next chapter, because they are concerned with the present position regarding supply times rather than the effect of distance on supply.

The results of the survey are shown in Table 1. They show a picture that is far from satisfactory. While the best supply times were good, the worst were very slow indeed - the extreme cases were nine months for a loan and over eleven months for a photocopy. Because of these extreme cases, the medians are a better indication of average supply time than the means; they range from four weeks for photocopies requested from North America to ten weeks for photocopies requested from Eastern Europe. It should be said that these figures by regions conceal some excellent supply times by some countries (notably the USSR, with a median of 23 days, and several smaller Western European countries); they also conceal very poor supply times by some countries. It is not however the performance of particular countries that is of present concern, but the general picture, which is not good.

The satisfaction rate for all requests sent abroad by the British Library Lending Division in 1979/1980 was more gratifying: 81 per cent of requested items were supplied, a substantial improvement over the three previous years, when it averaged 74 per cent. However, one of the reasons for this improvement was an increase in the number of second and third applications, from 1.33 per item to 1.39. In other words, the British Library Lending Division was more persistent than it had been before. Also, many requests for photocopies were sent to the United States of America that would previously have been sent to the country of publication; not an entirely satisfactory means, but one leading to a better result. An apparently superior satisfaction rate thus indicates a supply system that is little or no better than before.

TABLE 1

TIMES BETWEEN DESPATCH OF REQUESTS BY THE BRITISH LIBRARY LENDING DIVISION TO DIFFERENT REGIONS OF THE WORLD AND RECEIPT OF ITEMS

Area	No. of items received	Time between requesting & receipt		
		Mean time (days)	Median time (days)	Range (days)
Western Europe				
Loans	112	49	29	7-246
Photocopies	77	59	45	9-210
Total	189	53	36	7-246
Eastern Europe				
Loans	112	57	34	21-281
Photocopies	74	97	74	23-338
Total	186	73	51	21-338
North America				
Loans	65	50	49	11-228
Photocopies	124	36	27	12-131
Total	189	41	32	11-228
Other Regions				
Loans	5	38	42	16-60
Photocopies	21	47	31	13-150
Total	26	45	37	13-150
ALL COUNTRIES				
Loans	294	52	34	7-281
Photocopies	296	58	42	9-338
Total	590	55	38	7-338

2.3 Centres of international supply

2.3.1 Introduction

The number of libraries involved in international lending is impossible to estimate; potentially it is almost limitless. Almost any library of any size or specialization might receive an international loan request, either directly or through

a national centre, although the number of libraries making requests that are sent directly or ultimately abroad must in practice be much larger. While demand is actually scattered among thousands of libraries, however, a large majority of loans (including photocopies) are supplied by a very small number of libraries, probably no more than 20 at most. Since these libraries are clearly of central importance to the present pattern of international lending, these major suppliers were studied separately and in some detail.

It should first be understood that most of these important document supply sources were not set up as international centres; their international role has developed from a purely national one. Their willingness and ability to deal with international as well as national requests has led to an increase in foreign demand on them, without any planned attempt to capture a large international "market". Moreover, their primary role is still a national one. The largest of the document supply centres set up specifically at an international level is BIREME (Biblioteca Regional de Medecina) in São Paulo, but it is interesting to note that two-thirds of the use of BIREME is by its host country, Brazil.

The specific libraries covered in this study were chosen on the basis of their known international importance. They include several libraries of national standing and comprehensive subject coverage: the National Library of Australia (Loans and Locations Service); the Centre National de Prêt of the French Bibliothèque Nationale; the Lenin State Library of the USSR; the British Library Lending Division; and the Library of Congress (Loan Division and Photoduplication Service). To these are added several services of national standing, but restricted subject coverage: the Canada Institute for Scientific and Technical Information (CISTI); the Centre National de la Recherche Scientifique (CNRS), France; the Technische Informationsbibliothek (TIB), Federal Republic of Germany; and the National Library of Medicine, United States of America. Where a decentralized system is in operation, major university libraries sometimes assume, or have thrust upon them, an international document supply function. These are less significant centres in terms of volume of requests, but two examples were chosen to represent this secondary tier of supply centres: Copenhagen University, Denmark, and Yale University, United States of America. BIREME, a constitutionally international body on a regional level, was also included in the study, together with the libraries of two international bodies. The latter were the headquarters libraries of the World Health Organization in Geneva and of the Food and Agriculture Organization (United Nations) in Rome. The document delivery services of these two bodies are fundamentally international, though not of the first rank in volume, unlike the majority of supply centres, which are fundamentally national in character.

A number of other libraries that are significant centres for international document supply could have been included in this study, but it was felt that they would have added little to the scope of the study. The statistics collected by the IFLA Office for International Lending for the year 1978 indicate, for example, that the National Library of Austria satisfied 4,000 international requests in that year; the National Library of Canada satisfied 1,628 (out of 4,450 requests received); Helsinki University Library received 2,800 requests and satisfied 1,935; the National Diet Library, Japan, received 3,882 and supplied 3,488, nearly all as photocopies; and the National Library of Poland supplied 1,495 items (mainly loans) in response to 2,321 requests. Some other national libraries may well handle an equal quantity of demand from other countries. While the number of requests supplied by these centres is certainly not insignificant, their inclusion in the present study would have overburdened the results at the lower end of the scale. It was thought more important to highlight the largest centres, together with a smaller number of centres of particular interest.

The importance of a limited number of document supply centres in the present pattern of international interlending can be demonstrated by comparing the total estimated volume of international interlending with figures from 12 of the centres assessed in the questionnaire. In the IFLA international lending statistics for 1978, a total of 739,760 requests was reported by national centres in 59 countries. This figure includes the number of requests received by some of the centres in this study. Figures from the remaining centres, plus an estimate of the number of requests received at smaller centres, bring the world total to over 910,000 in 1978. If a 10 per cent yearly growth rate is assumed, a rough estimate of total world international lending in 1979 would be one million requests. It follows from this that the 15 centres in this study, whose combined total of requests is 753,507, receive approximately 75 per cent of all international requests.

It has already been mentioned that most of the important international document supply centres originated as libraries with a national role. It is interesting also that the most important centres are mainly of comparatively recent origin and some of them are restricted in subject scope. Of the seven centres that supply more than 10,000 international loans per annum, only two were in operation before 1940, and these are the main libraries of the world's two most populous developed countries: the Lenin State Library of the Union of Soviet Socialist Republics and the Library of Congress, United States of America. These two centres also have a comprehensive subject coverage. The other five centres, on the other hand, were set up within the last 40 years (although its predecessors have a long history, the National Library of Medicine was set up as such only in 1956).

CNRS and TIB specialize in scientific and technical literature. The British Library Lending Division, which incorporates the former National Lending Library for Science and Technology and the National Central Library, was formed in 1973 and, though it is now comprehensive in subject scope, its stock is still stronger in science and technology than in the humanities, particularly for back runs of journals. NLM and BIREME of course specialize in medicine.

The literature review of international lending (summarized in 2.1) revealed little published information on international document supply centres, apart from reports on the activities of the British Library Lending Division. The annual reports of national libraries, e.g. the National Library of Australia, give little information, and even fewer statistics, on their international lending activities. It was decided therefore to collect information by means of a questionnaire survey, which was conducted in May/June 1980.

The response rate was good, although the information supplied was, as had been expected, far from complete and often estimated rather than based on known figures. However, a firm base of information could be derived from the questionnaire and some figures were deduced from other information sent with the replies or taken from other sources. Blank spaces in the tables (2-6) in this chapter indicate that it was not possible to obtain the required information from all centres on the particular point in question.

2.3.2 Number of requests received

There are large differences in the number of requests sent to the various supply centres. At the top of the scale over half a million requests were received by the British Library Lending Division in 1979. The next highest total, 60,000, is at the Centre National de la Recherche Scientifique. These two are the only centres to receive more than 25,000 requests in 1979, although three more received over 20,000 and a total of nine received over 10,000 (see Table 2 and Figure 1).

TABLE 2

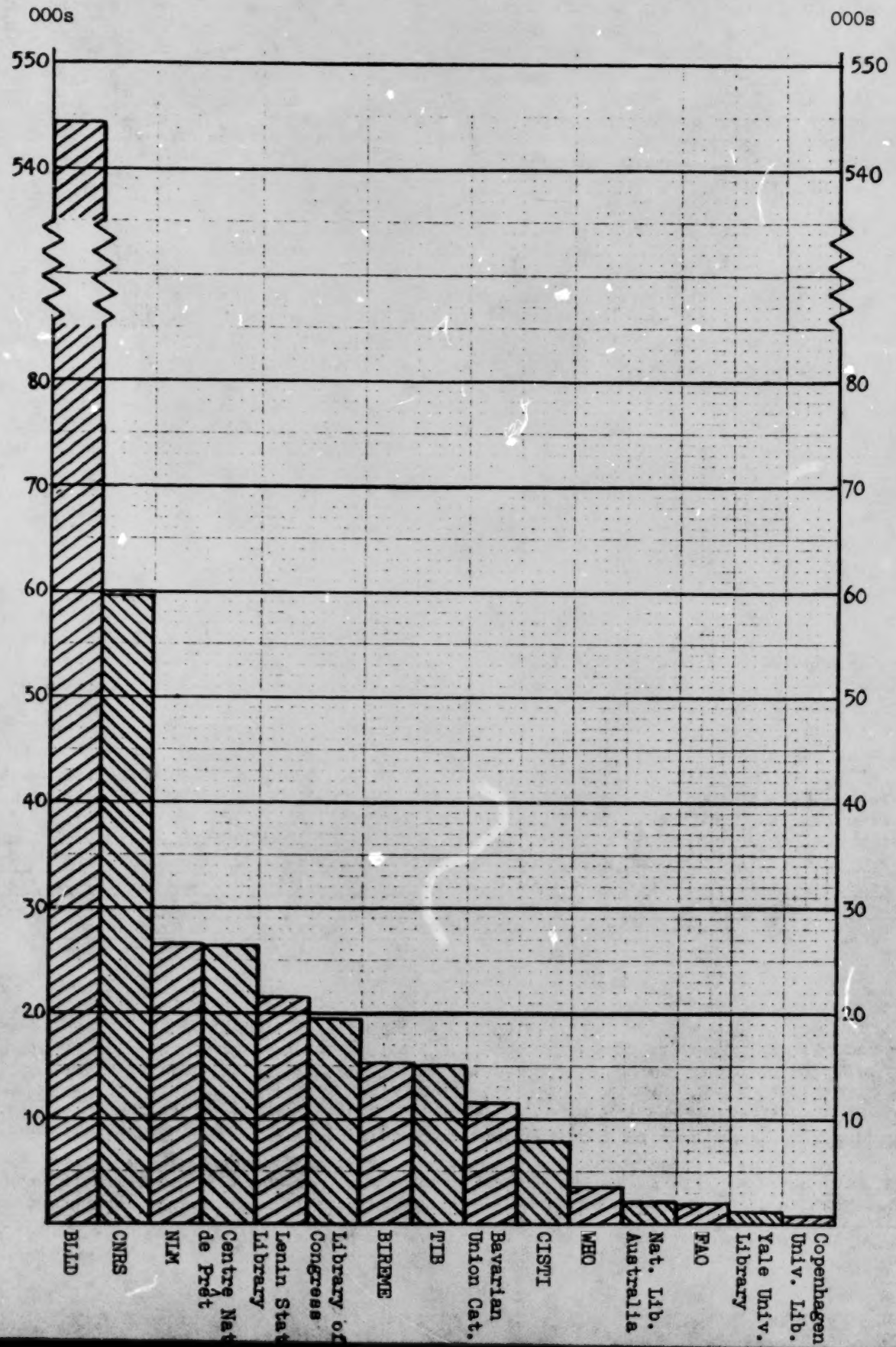
PERFORMANCE OF DOCUMENT SUPPLY CENTRES

Document Supply Centre	No. of requests received in last year	Satisfaction rate %	Speed of supply
National Library of Australia	2,124	61	
Centre National de Prêt	24,478	36	25% within 4 weeks
Lenin State Library	21,600	84	80% within 1 week
British Library Lending Division	544,383	81[1]	90% within 1 week
Library of Congress	19,520	64[2]	
CISTI	7,900	75	80% within 1 week
CNRS	59,556	89	Average of 2 weeks
TIB	15,000	85	90% within 1 week
National Library of Medicine	24,664	79	99% within 1 week
Copenhagen University	850	60	75% within 1 week
Yale University	1,074		
BIREME	15,256	65[3]	
Food and Agriculture Organization	2,000		
World Health Organization	3,600		
Bavarian Union Catalogue	11,502	44	

1. 81% from stock; 87% supplied overall.
2. Loan Division, 46%; Photoduplication Service, 70%.
3. 65% from stock; 91% supplied overall.

FIGURE 1

INTERNATIONAL REQUESTS RECEIVED BY DOCUMENT SUPPLY CENTRES IN LAST YEAR



At the other end of the scale among the centres studied, the National Library of Australia and the Food and Agriculture Organization received fewer than 2,500 requests, while the two university libraries, Yale and Copenhagen, received respectively just over and somewhat under 1,000. There must be quite a large number of libraries receiving several hundred requests a year from other countries.

It would be foolish to calculate the average number of requests when one centre alone deals with such a large proportion of the total. However, if the figure for the British Library Lending Division is disregarded, the next ten largest centres studied deal on average with 20,000 requests per annum, with a typical figure of perhaps 15,000.

It is impossible to ignore the prominence of the British Library Lending Division in the total of requests received. Of all the requests accounted for in this study, over 753,000 in 15 supply centres, the Lending Division received over 72 per cent. Furthermore, the statistics indicate that the Lending Division has increased its share of the total over the last five years. Figures from 12 supply centres in 1974* indicate that at that time the Lending Division accounted for only 60 per cent of the total. Only two supply centres, namely CISTI and BIREME, have increased their number of requests received at a greater rate than the Lending Division (see Table 3, column 1). Nevertheless, it is also clear from Table 3 that not only are all international document supply centres receiving an increasing number of requests but, so far as figures are available, international demand is increasing faster than national demand. The total number of international requests received at the 15 centres able to supply figures has more than doubled between 1974 and 1979. The increase of 105 per cent may be compared with an overall increase of 26 per cent in national demand on these centres during the same period.

Comparisons can also be drawn between the total figures given by these 15 centres and those collected from national centres in the statistical survey of international lending conducted by the IFLA Office for International Lending (see 3.2); two of these were carried out in 1971/1973 and 1978 and therefore cover a comparable span of five years. The number of countries returning statistics increased from 44 in the first survey to 59 in the second, but countries returning the highest figures were included in both. It must also be remembered that most of the international document supply centres in this study will also be included in the figures returned by national centres for the IFLA statistical surveys. Despite these reservations, it is interesting to note the figure of 88 per cent increase in international lending between 1972/1973 and 1978 derived from these surveys. While the accuracy of the different figures cannot be fully relied on, some clear conclusions on present trends can be drawn. These are striking and of major importance. International lending is increasing at a much faster rate than national interlending, and demand on a limited number of international document supply centres is increasing faster than international document supply centres is increasing faster than international lending generally.

2.3.3 Satisfaction rates

The satisfaction rates for international requests at the document supply centres covered by this study are shown in Table 2. They should be interpreted with caution; the validity of close comparisons is doubtful. For example, the figures given by the Centre National de Prêt and Copenhagen University Library do not include requests referred to other centres likely to satisfy them, while the figure for CNRS probably includes requests satisfied from sources other than its own stock. The figure of 81 per cent for the British Library Lending Division refers only to items satisfied from its own stock, but it is known that a further 6 per cent are satisfied through other British libraries with which the Lending Division has systematic arrangements

* Yale, FAO and WHO were not able to provide figures for 1974.

TABLE 3

DOCUMENT SUPPLY CENTRES: GROWTH IN DEMAND, AND INTERNATIONAL REQUESTS AS PROPORTION OF ALL REQUESTS

Document Supply Centre	Increase in demand, 1974-1979		International requests as a percentage of total requests received	
	international %	national %	1974	1979
National Library of Australia	74[1]	11[1]	2	3.1
Centre National de Prêt	106	14	67	79
Lenin State Library	41			6.7
British Library Lending Division	149	22	10	19
Library of Congress	7.8	2.5	8.4	8.8
CISTI	304	58	2.4	4.9
CNRS	33	33	16	16
TIB		40		4.1
National Library of Medicine	9.2 overall			9.9
Copenhagen University	21			8.9
Yale University				7.6
BIREME	176	-12	15	36
Food and Agriculture Organization			N/A	N/A
World Health Organization			N/A	N/A
Bavarian Union Catalogue	12	-4.5	3.8	4.4

Figures over 10 are rounded to nearest unit.

N/A = not applicable

[1] Over 4-year period

for the supply of requests it cannot satisfy itself. The figure for the Bavarian Central Catalogue refers to the percentage of requests for which locations were found and not to actual supply of documents. Also, as noted elsewhere in this report, a good service attracts demand, including demand for "difficult" items, which may reduce satisfaction rates; a system supplying 80 per cent of a large demand quickly and efficiently is better than one supplying 95 per cent slowly.

It appears that satisfaction rates are generally higher where the document supply centre has a restricted subject coverage: in science and technology (CISTI, CNRS, TIB) or medicine (NLM, BIREME). There is also a clear correlation between satisfaction rates and the supply of photocopies (see Table 4): the two centres that give the highest overall satisfaction rates supply photocopies only (BIREME and CNRS) while the three centres with the lowest rates of satisfaction (Copenhagen University, Bavarian Central Catalogue and CNP) are those that supply the highest proportions of loans. Since usually photocopies result from journal requests and loans from book requests, the same point may be made that satisfaction rates are generally higher where the proportion of journal requests is greater. This is confirmed by figures from the Library of Congress: the Loan Division, which receives requests almost exclusively for books, has a satisfaction rate of 46 per cent, whereas the Photoduplication Service, which deals mainly with journal requests, satisfies 70 per cent of requests.

The satisfaction rate for requests sent to the 15 supply centres studied can be compared with figures from the IFLA statistics on international lending. The overall rate of satisfaction derived from the 1978 statistics returned by national centres in 59 countries is 68 per cent. The overall satisfaction rate for 1979 from the centres in the present study is 79 per cent. Again the figures are not to be interpreted literally,* but do indicate a better rate of satisfaction from the most used centres and may explain to some extent why these international centres are comparatively so heavily used.

2.3.4 Speed of supply

Only nine of the document supply centres surveyed were able to provide figures or estimates of the number of requests satisfied within one/two/four weeks. Six out of the nine centres that replied to this question supplied at least 75 per cent of satisfied requests within one week of receipt. CNRS stated that their average is two weeks. The Library of Congress is slower, with 26 per cent supplied within two weeks and 68 per cent within four weeks, although the Loan Division was considerably quicker than the Photoduplication Service (72 and 92 per cent as compared to 10 and 60 per cent respectively). The Centre National de Prêt was much slower than the other centres, with only 5 per cent of items supplied within two weeks and 25 per cent within four weeks.

From these figures, there seems to be no clear relationship between speed of supply and the level of demand made on a centre. However, it is known that supply times generally are much poorer than those recorded by these supply centres, whose superior speed of response is therefore likely to be a factor in the volume of requests made to them. Where the number of requests is high despite a slow speed of supply, other factors are probably involved, e.g. the centre may be the only likely location for a large number of publications.

2.3.5 Charges and cost recovery

Table 5 summarizes the charges made by each international document supply centre and the principles of cost recovery on which they are based. It can be seen that the

* The corresponding figures from IFLA surveys in 1972/1973 and 1976 are 68 and 75 per cent respectively. The figure for 1974 from the 15 centres in the present survey is 81 per cent.

TABLE 4

PROPORTION OF ITEMS SUPPLIED BY DOCUMENT SUPPLY CENTRES AS PHOTOCOPIES OR MICROFORMS

Document Supply Centre	Satisfaction rate %	Items supplied as photocopies or microforms % of all items supplied
CNRS	89	100
TIB	85	90
Lenin State Library	84	50
British Library Lending Division	81	95
National Library of Medicine	79	100
CISTI	75	100
BIREME	65	100
Library of Congress	64	75
National Library of Australia	61	75
Copenhagen University	60	10
Bavarian Union Catalogue	44	35
Centre National de Prêt	36	27

Satisfaction rates for FAO, WHO and Yale University are not known; they supply respectively 100%, 100% and 78% of requests as photocopies or microforms.

TABLE 5

CHARGES MADE BY DOCUMENT SUPPLY CENTRES

Document Supply Centre	Charges*		Prepayment required?	Postal costs only for loans?	Photocopying: costs and postage only?	Marginal costs recovered?
	Loans	Photocopies				
National Library of Australia	No charge	$1 Australian ($1.16)	Yes	<	<	<
Centre National de Prêt	Europe 13FF ($3.11) Outside Europe 35FF ($8.37)		No	Yes	<	<
Lenin State Library	Charges on reciprocal basis only		-	Yes	-	-
British Library Lending Division	Europe £2.25 ($5.37) Outside Europe £5 ($11.94)	Europe £1.70 ($4.05)[1] Outside Europe £1.85 ($4.42)[1]	Yes	>	>	>
Library of Congress	No charge	$4 minimum	Yes	<	>	>
CISTI	N/A	$2.20 Canadian ($1.90)	Yes	N/A	Yes	<
CNRS	N/A	18.70 FF ($4.47)[1]		N/A	Yes	<
TIB	Europe 7 DM ($3.89)[2] Outside Europe 8 DM ($4.44)[2]		No	>	>	Yes
National Library of Medicine	N/A	$4	No	N/A	>	Yes
Copenhagen University	No charge	1 Kr. ($0.18) for more than ten pages	No	<	Yes	<
Yale University	$10 plus postage	Minimum $5 plus postage	No	>	>	Yes
BIREME	N/A	$4	No	N/A	>	Yes
Food and Agriculture Organization	N/A			N/A		
World Health Organization	No charges		N/A	<	<	<
Bavarian Union Catalogue	Charges are made by the supplying libraries		-	-	-	-

* American dollar equivalents (August 1980) are given in brackets.

[1] For up to ten pages.

[2] For a loan or up to 16 pages of photocopy; TIB direct users.

N/A = not applicable

< = less than such costs are charged

> = more than such costs are charged

centres that deal with the largest numbers of requests make the highest charges. This is no doubt because it would be difficult if not impossible for national services to subsidize large numbers of requests from other countries. It also suggests that the charges made at present do not generally deter borrowers in other countries. It is interesting to note that the six centres that supply more than 10,000 international loans each year and make direct charges for their service,* all make a charge of between $4 and $4.50 for a ten-page photocopy. Of these centres, only two are recovering anything more than marginal costs, three are recovering their marginal costs and one less than marginal costs. It would appear therefore that prices are very similar, but internal costs vary rather more. It is important to appreciate that no international centre is anywhere near to recovering the full cost (including acquisition and/or accommodation) of its service to overseas users.

2.3.6 Transmission methods

Transmission methods for requests and items dispatched are summarized in Table 6. It is clear that at all but two centres nearly all requests are received by post. Telex is fairly extensively used for requests, but usually only for a small proportion. Telephone requests are accepted at four centres, in small numbers. Only two centres are using the more modern methods of communication to any considerable extent. The Canada Institute for Science and Technology receives 20 per cent of requests by telex and 10 per cent by computer. At the British Library Lending Division, telex accounts for 25 per cent of requests received and computer transmission for 11 per cent. Only one other centre receives requests by computer at present: 0.6 per cent of requests are received in this way at the Centre National de la Recherche Scientifique. The Technische Informationsbibliothek introduced a computer request facility in 1979.

Loans and photocopies are dispatched by air mail from nearly all the centres. It should be pointed out that the Copenhagen University Library does not find it necessary to use air mail, since most requests are from other European countries, to which surface mail would be used anyway. The use of air or surface mail at the Centre National de Prêt depends on the wishes of the borrowers, who pay postage rates accordingly.

The general picture in transmission methods is fairly conservative, but it is pleasing to note the widespread use of air mail for the dispatch of loans and photocopies. The need for speedy delivery of requested items has clearly been recognized.

2.3.7 Characteristics of requested documents

Over three-quarters (78 per cent) of all requests received by the centres were for journals. The proportion ranged from 10 per cent (Copenhagen University) to 100 per cent (NLM, BIREME, FAO and WHO). Requests for journals would tend to be much more concentrated on centres than for books, which are much more scattered among libraries. Allowing for this fact, the proportion of all international requests accounted for by journals will be lower, probably about two-thirds.

The choice of international centres to which requests are directed seems to depend to some extent on the native language of the country in which the centre is situated, but the extent of this influence is difficult to judge. The highest number of requests sent to most centres are for items in the native language. Both CNRS and TIB receive more requests for items in English than in French and German respectively, but this is no doubt because such a high proportion of scientific and technical literature (probably about 50 per cent) is in English. French, German and Russian are the only commonly requested languages apart from English.

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* The only centre supplying over 10,000 loans a year that does not make direct charges is the Lenin State Library of the USSR. Since it operates by reciprocal agreements, its charges are in effect the same as the overseas libraries with which it has such arrangements.

TABLE 6

DOCUMENT SUPPLY CENTRES: METHODS OF RECEIVING REQUESTS AND DESPATCHING ITEMS

Document Supply Centre	% of requests received by:				Form of dispatch*	
	Post	Telex	Computer	Telephone	Loans	Photocopies
National Library of Australia	98	2	-	-	airmail	airmail
Centre National de Prêt	100	-	-	-	airmail/surface	airmail
Lenin State Library	99	1	-	-	registered post	
British Library Lending Division	64	25	11	-	airmail	airmail
Library of Congress	96	1	-	3	airmail	airmail
CISTI	65	20	10	5	N/A	airmail
CNRS	99	0.4	0.6	-	N/A	airmail
TIB	96	2	-	2	airmail	airmail
National Library of Medicine	99	1	-	-	N/A	airmail
Copenhagen University	99.5	-	-	0.5	surface	surface
Yale University	100	-	-	-	airmail	airmail
BIREME					N/A	airmail
Food and Agriculture Organization					N/A	
World Health Organization	100	-	-	-	N/A	
Bavarian Union Catalogue	100	-	-	-	N/A	N/A

* Where 'airmail' is stated, this includes surface post where it is the fastest available service.

Countries of publication that are cited as the most commonly found among requested items follow the same pattern as languages. However, where English is the most common language, the United States of America precedes the United Kingdom as the commonest country of publication in all cases. Even at the British Library Lending Division American publications are requested twice as frequently as British publications.

It emerges from this survey that only a small number of centres are seen by their borrowers mainly as suppliers of documents that have not been published in the centres own country. These suppliers of mainly non-native documents are CISTI, CNRS, TIB and the British Library Lending Division.* The latter has the advantage of sharing its language with that of the United States of America, whose publications are the most numerous, and the most requested, around the world.

2.3.8 Regionalization

Of the 15 centres considered in this study, only one was planned as an international (regional) supply centre. This centre, the Biblioteca Regional de Medecina, does indeed fulfil a regional role, and is not used particularly disproportionately by its host country.** At the same time, some bias towards regionalization of use is evident at all the centres. Although there are variations in the total proportion of requests coming from near or neighbouring countries, these nearly always include the heaviest requesting countries. Exceptions are usually explained by shared languages, e.g. Australia and the United States of America, the nature of the service, e.g. health literature to developing countries, or economic ties, e.g. Japanese demand on the United Kingdom and the United States of America.

Examples of regional concentration of requests are: National Library of Australia, whose heaviest borrowers are Papua New Guinea, New Zealand, Indonesia and Malaysia; Copenhagen University Library, which receives most requests from the four other Scandinavian countries, and nearby Poland; and TIB (Federal Republic of Germany), which receives the majority of its requests from Austria, the German Democratic Republic, Switzerland and France, which all share borders with the Federal Republic of Germany (and incidentally all have German in common as a language except France and part of Switzerland). The British Library Lending Division, which serves users from all parts of the world, from 120 countries in all, receives 48 per cent of its demand from Europe. However, the same figure may be presented in a different and equally striking way - that over half of its demand comes from continents other than Europe.

It is not surprising, if not necessarily justifiable, if libraries send requests more often to their nearest supply centres. Nor is it unlikely that document supply centres acquire a larger proportion of stock from their own region of the world. However, the situation cannot be viewed in black and white: the world cannot be divided into convenient integral blocks for document acquisition or supply. While some tendency towards regionalization can be discerned in the present world pattern of interlending, it is also evident that there are supply centres that are satisfying a high proportion of requests from anywhere in the world.

2.4 International lending in Scandinavia

The Nordic countries*** were selected for special study because they present an especially interesting picture from the point of view of regional interlending,

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* It is likely that, in addition, the majority of material requested from BIREME is published outside South America.

** Brazil's population is about 50 per cent of the total for South America and its use of BIREME is 66 per cent.

*** The co-operating countries are Denmark, Finland, Norway and Sweden, although Iceland has also been involved to some extent in recent years.

because of various factors favourable to close co-operation, notably a general background of mutual understanding and support. Although the emphasis given to similarities between these countries varies, the Scandinavian countries, despite their separate identities, undoubtedly enjoy unusually close links in their geographical, historical, political, linguistic, economic and cultural backgrounds. Moreover, they are all small countries, with a similar dependence on other countries for similar literature needs. It is important to realize that libraries in Scandinavia have similar stocks of literature, including large proportions of non-native publications in foreign languages, and have interlending needs for the same kinds of documents: they can therefore be mutually supportive. This is the basis for the unique international interlending co-operation in Scandinavia, whereby any library may send requests (for material published in any country) to any other library in the region and will receive in return documents or photocopies free of charge.

The history of library co-operation in Scandinavia can be traced back over more than 50 years. In the 1920s, regular meetings between different groups of librarians were organized to discuss common problems, and the work of these groups was carried forward into the Scandia Plan. The concept of co-operation in the purchase of foreign literature was brought to fruition in the 1950s. This co-operative acquisition applied to marginal material only; there was no central funding of the scheme and no formal obligation on the part of the participating libraries to collect the relevant documents for their prescribed subject-areas. By definition, this material was little used and librarians began to question whether it need be collected at all; indeed, it is questionable whether a large proportion of the material that should have been acquired under the scheme was in fact ever acquired. Perhaps the Scandia Plan did more to allow librarians to put aside the problems of peripheral literature and concentrate freely on satisfying requests in areas of known high demand than it did to improve the supply of the peripheral literature itself.

Two new factors also contributed to the demise of the Scandia Plan subject coverage scheme. The first was the increase in the use of photocopying, which meant that material could be easily obtained from elswhere. The second was the establishment of the British Library Lending Division, a fast service with good postal links with Scandinavia and a comprehensive acquisition policy (though there have been suggestions that Scandinavia should not become too heavily dependent on this source). There have been proposals for a Swedish or Scandinavian lending library, similar to but on a smaller scale than the British Library Lending Division. Such a centre in itself, if it had concentrated on heavily requested material, would probably have made the Scandia Plan largely obsolete. However, the idea was treated too nervously in Sweden, and even Scandinavian library co-operation apparently did not stretch to the mutual funding of a permanent institution.

What has emerged in recent years is not a clear-cut plan, but rather a realistic strategy for document provision. There is no longer any commitment within the Scandia Plan to collect the most peripheral literature, but plans are still made and modified to cover as much of the well-used material as possible, through subject-specialized libraries and co-ordinated acquisitions between libraries with similar subject scope. This is (partial) planned decentralization at an international level.

The flexibility of this more recent approach to acquisitions requires, however, that more information is available on the location of individual documents. Over Scandinavia as a whole there is a well-established network of union catalogues, which are now being developed further on a national basis for books and a regional basis for periodicals. Emphasis has been placed recently on the importance of NOSP, a Nordic union catalogue of periodicals on computer output microfiche.

Within the Scandia Plan improvements are sought through studies of (regionally) unsatisfied requests and investigations of the provision, for example, of grey literature. Scandinavian libraries are already able to supply 50 per cent of their international demand within the region. However, some libraries are receiving a burdensome proportion of demand and speeds of supply are known to be unreliable and often slower than from some libraries outside the region. The achievements of the Scandia Plan are a tribute to the international goodwill between librarians in the region, but after over 50 years of co-operation there has yet to emerge a systematic plan for the future provision of documents over the region.

2.5 The problems of grey literature

The term "grey literature" refers to documents that are not issued through the usual commercial publishing and bookselling channels, and that for this very reason present difficulties in bibliographic control, acquisition and provision. Grey literature includes reports, theses, conference papers, many official publications and translations that have not been published commercially; it does not include ephemera. Its total quantity is unknown but must be enormous. It is perhaps most often issued as duplicated typescript, although a great deal is produced or reproduced in the form of microfiche. Some is listed in national bibliographies, and rather more in indexing and abstracting journals, but most of the total output is probably not covered at all. Because grey literature is not easily subject to normal bibliographic control, it cannot readily be identified for purposes of either acquisition or requesting; and conversely, collections of it tend to be partial and underexploited. Its availability therefore deserves separate consideration.

A number of schemes that are concerned with the availability of grey literature are described below.

2.5.1 NTIS (National Technical Information Service)

NTIS, which is an agency of the United States Department of Commerce, is the central source of supply for United States government-sponsored technical reports. Its collection currently exceeds 1.2 million titles, and 70,000 new reports are added annually. It announces new material in Government Reports Announcements and Index; accession numbers are assigned to all the entries and multiple indexes are provided to facilitate reference to the reports. Most of the reports listed are available from NTIS itself and a statement of availability from other sources is given for nearly all the remainder. NTIS supplies more than six million copies of its documents each year, and they are also available from other libraries and documentation centres that have purchased stocks from NTIS. Since report literature probably accounts for a larger proportion of grey literature than any other category, and since the United States of America generates more report literature than any other country, NTIS plays a very important role in providing bibliographical and physical access to grey literature.

2.5.2 VINITI

VINITI, the Institute for Scientific and Technical Information of the USSR, has operated since 1963 a depository service for unpublished research reports.(1) These are deposited in typescript form and notified in VINITI's abstract bulletin, and copies are supplied in response to requests. In 1977, 5,420 typescripts were deposited and 7,700 copies made in response to requests. This service is similar in kind to that provided by NTIS, though it is clearly on a smaller scale.

2.5.3 British Library Lending Division

The NTIS and VINITI services described above are both limited to grey literature in report form. This limitation does not apply to the British Library Lending Division, which acquires grey literature of all kinds. Much of this comes from other countries (e.g. the great majority of NTIS reports), but the Lending Division makes special efforts to be comprehensive, both in form and in subject, in British grey literature. All grey literature is made available by loan or photocopy. British documents are announced in the monthly publication British reports, translations and theses (formerly BLLD announcement bulletin). BRTT includes a few conventionally published documents and excludes a small amount of British grey literature, such as unpublished conference papers,* but it nevertheless lists what is almost certainly the widest national collection of grey literature.

2.5.4 SIGLE (System for Information on Grey Literature in Europe)

SIGLE is a recent development within the European Communities. It began operation in January 1981 and will be on an experimental basis for two years. A growing awareness of the problems of grey literature in EC countries led to a seminar on the subject at York in December 1978, which decided that action was needed to detect and make available grey literature. The aims of SIGLE are: to improve detection, identification and collection of grey literature in each EC country; to provide a document delivery service for all the documents acquired; and to set up a bibliographical data base, available both on-line through Euronet DIANE and through published indexes. Although the data base will combine records from different countries, the collection and supply of literature will remain on a national basis. There is a designated grey literature centre for each of the six countries so far involved: Belgium, Denmark, France, Federal Republic of Germany, Ireland and the United Kingdom. With the exception of the United Kingdom, the centres are not part of the national library and have therefore no national responsibility for conventional literature. Although it is clearly too early to assess the effectiveness of SIGLE, its importance lies in its attempt to provide a specific and comprehensive solution to the problem of grey literature.

2.5.5 AGRIS and AGLINET

AGRIS is essentially an information service; AGLINET is a document supply network. Both are co-ordinated by the Library of the Food and Agriculture Organization in Rome, and both aim at worldwide comprehensive coverage of agricultural literature. Neither AGRIS nor AGLINET is specifically concerned with grey agricultural literature; but a good deal of agricultural literature is "grey" and some but by no means all of it is covered by these services.

AGLINET is a voluntary network of large- and medium-sized libraries, each of which provides a free back-up service to other agricultural libraries in its region. It was conceived as a worldwide system of no more than 20 libraries in different regions, but a larger network has recently been proposed. At present there are 18 libraries in the system, including the FAO Library in Rome which serves as the co-ordinating centre. North and South America and North and West Europe are well represented among the centres, and there are two centres in Central Africa and three in South-East Asia. There are however at present none in the Mediterranean area, North Africa, the Middle East, the Far East, the Indian subcontinent, Eastern Europe or the Soviet Union.

AGLINET acts as a document back-up service to AGRIS, but it is possible for documents cited in AGRIS not to be available from any AGLINET centre: in such cases, the AGLINET library may forward requests to a centre that can supply them.

* These are covered instead in the Lending Division's Index to conference proceedings received.

In contrast to AGLINET, AGRIS makes a special effort in the provision of grey literature. Indeed its printed version, AGRINDEX, suggests that original documents should be requested from AGLINET libraries only if the material is conventionally published. If the required document is non-conventional, an organization through which it should be obtainable is given in AGRINDEX. These organizations are often AGRIS input centres.

AGRIS has instituted a special microfiche service for grey literature provision. AGRIS input centres make microfiche masters of all non-conventional documents and forward them to the AGRIS co-ordinating centre at FAO, where they are available for duplication and delivery to other AGRIS or AGLINET centres.

2.6 Commercial document suppliers

It should not be overlooked that commercial suppliers, mainly in the United States of America, are offering an alternative source for document supply instead of traditional library channels. Such commercial services are not new (a photocopy service has been available from Chemical Abstracts since 1945), but they have grown rapidly in recent years, particularly with the spread of on-line search services. It has recently been estimated that commercial suppliers are now supplying some 10 per cent of requests for documents in the United States of America, with a growth rate of 15 per cent a year. Such figures are not as yet reflected in other countries, nor in document supply between countries, but they could point to a significant trend.

There are three types of commercial suppliers: brokers, clearing-houses and publishers. Brokers do not have any stocks of documents, but merely act as middlemen, supplying copies of documents from various sources including libraries. Unlike brokers, clearing-houses have their own stocks, although these are very limited and most usually restricted to recent runs of high-use journals. Clearing-houses are usually linked to bibliographic awareness services; they back up their provision of bibliographic information with the supply of the documents referred to. Indeed, they normally limit their document provision to items located in their own files. For example, the Chemical Abstracts Service for document provision is limited to the 5,000 most frequently cited journals in its files. Similarly, the Institute for Scientific Information provides copies of articles that it has indexed through its OATS (Original Article Tear-Sheet) service, but the number of journals covered and the length of back files are both very limited. The third group of commercial suppliers is the publishers themselves, though they are relatively little used. Some publishers supply single copies of articles, usually from journals published by learned bodies or professional associations. Publishers often co-operate with brokers or clearing-houses in the direct supply of articles to users on their behalf in return for a fee.

Compared with library services, all these commercial services are very limited in scope and expensive to use. However, they are able to operate such services at commercial prices for two reasons: first, the limited scope of their service allows them to operate in the most cost-effective area only; second, their clients are prepared to pay a high price for the convenience of the commercial service. This is particularly so where documents can be searched and ordered from the same source; this advantage is reinforced where such services are on-line. Off-line requesting procedures to commercial suppliers are no simpler than interlibrary loan request procedures, but on-line services allow the user to search for references in data bases and order copies of documents required without the need to transcribe and transmit details of requests. On the Lockheed DIALOG system, for example, documents are supplied from different sources under different conditions according to the particular file from which references have been extracted, but for the user the same simple facility for full text document delivery is available.

As already mentioned, these developments have taken place largely in the United States of America, a country where there is no national lending centre in the traditional library system and where users are perhaps more prepared to pay high charges for a fast, convenient service. It is difficult to predict the extent of commercial sector penetration in other countries, but this will depend to a large degree on the quality of service provided by traditional libraries. A danger foreseen by some librarians is that commercial suppliers may cream off the most lucrative part of the document delivery "market", leaving libraries to deal with the remainder of requests that are more expensive to handle. At the same time, commercial suppliers are doing little or nothing to improve available stocks of documents, but in most cases are providing only an alternative means of access to existing stocks.

At the international level, there is probably little commercial involvement in document supply at present. Lockheed DIALOG and the American Chemical Society offer worldwide delivery of documents, but the extent of use is not known and probably very small. Nevertheless, the availability of on-line data-base searches on an international scale will encourage international document supply as a back-up service. There is at least a possibility that such commercial services may conflict with international library planning for document provision.

2.7 Conclusions

From the literature review, the statistics collected by the IFLA Office for International Lending and the special study of 15 international supply centres, a picture of international lending emerges that is clear in outline and in many of the details, even though it is by no means comprehensive.

International loan demand is increasing rapidly, at a faster rate than national interlending demand, to judge from the experience of the 15 supply centres studied.

Satisfaction rates vary greatly; they are not bad, but there is obviously scope for much improvement.

The speed of response also varies greatly; here too much improvement is possible.

Demand, about two-thirds of which is for journals, is concentrated on a limited number of supply centres, which between them probably account for about three-quarters of all international demand. Within these centres, demand is heavily concentrated on a single supply source, the British Library Lending Division, which may be handling half of all international demand. Apart from the British Library Lending Division, demand is concentrated on only five or six of the centres studied.

This concentration on a limited number of supply sources, and within them on a much smaller number, has been increasing.

Although a majority of international requests come from nearby countries, a great many come from much further afield; and the main reason why regionalization occurs is probably that neighbouring countries tend to have similar requirements and are therefore likely to be able to supply one another with wanted documents. In some cases, e.g. the Nordic countries, the sense of unity is so great that they operate almost as one, and the transactions are hardly regarded as international loans at all. Linguistic bonds and links due to history (e.g. between ex-colonial powers and their former colonies) operate over long distances. A fairly comprehensive service like the British Library Lending Division attracts a worldwide demand: half its foreign demand comes from continents other than Europe. Regionalization as such, other things being equal, does not seem at present to have any great virtue, at any rate for the supply of photocopies. Effective co-operation between neighbouring countries, even when they are linked by such close ties as in Scandinavia, is also very difficult to achieve; the difficulties are likely to be greatly magnified in most regions of the world.

Reasons for the concentration of demand are not hard to find. In almost all cases, the most heavily used supply centres have been set up to serve national needs, so that they have a sound national foundation and can provide a service to other countries - an activity requiring little extra funding or effort except for the actual transactions themselves. The main exception is BIREME, which has international support, though it does in fact charge for its services. Because the centres, supported as they are by national funds, are under an obligation to provide an efficient national service, they are in a strong position to offer a wider service. They have in common the characteristics of a substantial stock, in most cases confined to particular forms of material (e.g. journals) or subjects (e.g. medicine), a fairly rapid turn-round of requests, and the use of fast methods of supply (air mail where necessary).

They can consequently offer a high probability of satisfaction and a good speed of response. It is much easier and faster to use them than to send requests to national libraries that are in effect switching centres and have to find locations within their countries.

The most heavily used supply centre is the British Library Lending Division. There are several reasons for this. First, its subject coverage is comprehensive, and its stock, especially of journals, reports and conference proceedings, is very extensive. Second, as a national library, almost exclusively dedicated to giving a loan/photocopy service, it handles a very large national demand (2,400,000 requests a year), and to do so it has had to develop and maintain efficient procedures and rapid supply. Third, the United Kingdom's native language, English, accounts for about half of the significant journal literature and probably for at least half of all international loan demand. Finally, it is situated in a region which has a large number of developed and established libraries, and which accounts for the majority of international lending.

The information collected on international lending is rather incomplete in one major respect: it comes mainly from the suppliers, not the requesters. A large-scale survey of requesting libraries would be a very large undertaking, far beyond the scope and resources of the present study; but without some information of this kind it is impossible to assess the preferences of libraries and countries for particular sources of supply, the reasons for these preferences, and the relative performance of different sources. Why, for example, are nearby sources used by some libraries and for some kinds of material, and more distant sources for others? If nearby sources could achieve an equal (but not better) performance to that of distant sources, for a similar cost, would they be used for preference? Questions of this kind are important, though fortunately not crucial to planning for the future.

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3. TRANSMISSION TIMES BETWEEN COUNTRIES

3.1 Introduction

In choosing between different possible patterns of international interlending provision, numerous factors have to be taken into account, as will be seen later. Among them, speed of supply is very important, since slow service inhibits demand and delays supply to users.

Speed of service depends partly on the design of the interlending system in individual countries, partly on the efficiency of requesting and supplying libraries. For example, a country with a centralized supply system and a dedicated loan collection is likely to achieve much faster supply than one with an interlending system based on union catalogues and the routing of requests to one library after another; and one with efficient union catalogues would normally achieve a faster service than one with inadequate or inefficient union catalogues. Within countries, the main delays in supply seem to occur in requesting and supplying libraries, rather than in the transmission of requests and requested items between libraries.

However, national interlending systems can be improved, and delays in requesting and supplying libraries can be reduced if not eliminated. If it is assumed that all systems and libraries are equally efficient, or at least that their efficiency is unrelated to their location, the other main factor in supply time - the time spent in transmission of requests and requested items between libraries - becomes vital. If one system of international lending achieves significantly slower transmission times than others, it may be ruled out unless there are very strong points in its favour. Of particular interest and relevance is the extent to which speed of transmission is affected by distance.

To obtain comprehensive information on transmission times between countries would have been extremely costly and time consuming: the number of possible permutations is enormous. Even if the number of countries studied is reduced to two or three in each continent, the number of links between them all is still very large, and to obtain a valid sample a large number of items of different types and sizes - letters, packets and parcels - would have to be sent through the mail. It would be impossible to obtain information of this kind by asking libraries all over the world to collect data over a period of time, but on the other hand the cost of carrying out a special experiment would be very large in postage alone.

For these reasons, no attempt was made at a comprehensive study. Rather, an effort was made to collect some relevant information that it was hoped would shed some light on the issue. To this end, two surveys were carried out in 1979-1980. One of these, carried out at the British Library Lending Division, collected information on actual transmission times of requests and documents between the Lending Division and foreign libraries. The other, carried out by British Council Offices in six Asian countries, studied transmission times between those countries by carrying out a deliberate experiment.

3.2 Transmission times between the British Library Lending Division and other countries

3.2.1 Design of study

Over the period November 1979 to February 1980, questionnaires were enclosed with a sample of outgoing loans and photocopies sent by the British Library Lending Division to foreign libraries. The questionnaire is illustrated below.

QUESTIONNAIRE USED FOR STUDY OF TRANSMISSION TIMES BETWEEN
BRITISH LIBRARY LENDING DIVISION AND LIBRARIES IN OTHER COUNTRIES

International Federation
of Library Associations
Fédération Internationale des
Associations de Bibliothécaires
Internationaler Verband
der Bibliothekar-Vereine
Международная Федерация
Библиотечных Ассоциаций

IFLA Office for International
Lending, c/o British Library
Lending Division, Boston Spa,
Wetherby, West Yorkshire LS23 7BQ,
United Kingdom.
Tel. 0937-843434, telex 557381.
Director: M. B. Line.

OFFICE FOR
INTERNATIONAL LENDING

Dear Colleague

The IFLA Office for International Lending is conducting a study of possible patterns of worldwide availability of publications under contract to Unesco. As part of this study, information is needed on the transmission times of both requests and documents between countries.

The British Library Lending Division has agreed to undertake a study of the time taken for it to receive requests from all over the world, and of the time taken for items to be despatched to the same places.

Your cooperation in completing and returning this questionnaire will yield valuable information and would be greatly appreciated. Completed forms may be returned either with new requests being sent to the British Library Lending Division or in separate envelopes direct to the IFLA Office at the above address.

Please enter:

1. Date on which you received the item with which this form was sent: .....
Day/Month/Year

2. Date of return of this form to the BL Lending Division/ or IFLA Office for International Lending: .....
Day/Month/Year

3. Name of the city or town in which your library is located: .....

4. Name of the country in which your library is located: .....

For Official use only:

Reference number: Date of issue: Date of receipt:

Stephen Vickers.

Stephen Vickers

The date of issue from the Lending Division of the loan or photocopy was recorded on each questionnaire before the item was dispatched. The borrowing institution was asked to return the questionnaire to the Lending Division, stating the date of receipt of the item and the date of return of the questionnaire, and also the geographical situation (town and country) of the institution. The information on the questionnaire provided data on the times of supply of the loans and photocopies, while the envelopes containing the returned forms were used as an indication of the time of transmission of requests.

3.2.2 Sample and response

Five thousand two hundred and forty-two questionnaires were dispatched with a random sample of photocopies over eighteen working days, starting on 15 November 1979. A note of the country to which each questionnaire was sent was recorded at the Lending Division, so that if necessary more questionnaires could be sent to countries whose response rate proved unsatisfactory. In the event, a reasonable response was received from most countries, and no extra questionnaires needed to be sent.

By 15 February 1980, 1,993 questionnaires had been returned, 58 per cent of the total sent out. As the week beginning 11 February produced no replies and the preceding week only 20, 15 February - 28 working days after the start of the survey - seemed a reasonable date on which to stop data collection. In a similar survey in June-July 1974, 2,136 (33 per cent) of 6,496 questionnaires dispatched were returned.

Between 22 January and 18 February 1980 inclusive (20 working days), 1,061 questionnaires were sent out with loans dispatched from the Lending Division. The response was higher than for photocopies: by 14 March, 39 working days after the start of the survey, 714 (70 per cent) of the questionnaires had been returned. Since the number of returns recorded immediately prior to 14 March was dwindling rapidly, it was decided not to record any returns received after this date. A similar survey in 1974 was based on a much smaller number of questionnaires - 92 (33 per cent) of the 283 dispatched were returned and analysed.

The following table shows the postal rate used by the Lending Division for loans and photocopies to foreign destinations.

	Type of issue	Weight	Rate
Europe	Loan & Photocopy	≤2 kg	'All-up letter'
Europe	Loan	>2 kg	Air parcel
Outside Europe	Loan	≤300 g	Air letter
Outside Europe	Loan	>300 g	Air parcel
Outside Europe	Photocopy	≤2 kg	Printed paper

3.2.3 Requests from the borrower to the Lending Division

The mean average times taken between the dispatch of requests from foreign libraries and receipt by the Lending Division are shown in Tables 7 and 8. Table 7 gives results by regions of the world and Table 8 gives details for individual countries.

One immediately striking point is that the overall weighted average time is considerably longer than in 1974 - from some parts of the world above twice as long. This may be due to the fact that the Christmas-New Year period fell within the 1979 survey but not within the 1974 survey.

The minimum times for 1979 are no worse than for 1974, but the maximum times are much longer. The medians are however very close to the means, indicating that the means are not distorted by a few exceptionally large values.

It is clear that although there is a large difference between Scandinavia and North America, differences between other parts of the world are fairly small, ranging from 7.9 days for Eastern Europe to 11.2 days for South America. There is less than a day's difference between the United Kingdom-Western Europe and United Kingdom-Far East/Australasia.

3.2.4 Issues from the Lending Division to borrowing institutions

Table 9 shows the average postal time taken by loans to reach their destinations, by broad geographical region, and Table 10 gives the same data for photocopies. Table 11 gives details for individual countries.

For loans, the overall weighted average time of 8.8 days represents a great improvement over the 21.6 days recorded in 1974. The overall weighted average time for photocopies declined slightly from 6.9 days in 1974 to 7.2 days in 1979, but this may be due to delays over the Christmas-New Year period. The time of 7.2 days is significantly faster than the time taken for request forms to reach the Lending Division from foreign libraries; this may be due to differences in the efficiency of the postal services of the United Kingdom and other countries, or to greater efficiency in foreign countries in receiving mail from abroad and delivering it to libraries within the country than in sending it abroad.

The average times for loans to different parts of the world cannot be validly compared except for Europe, since the number of items sent to other parts of the world is too small. There is a difference of 3 days between Scandinavia and Eastern Europe. The number of photocopies sent out to all parts of the world is however enough to make a comparison of much greater validity and interest. The greatest difference is between Scandinavia, with an average time of 5 days, and South America, with an average time of 10.9 days. Apart from these two extremes, differences are not very great, ranging from 5.3 to Western Europe to 8.7 for the Middle East and North Africa.

It is noteworthy that loans (which are sent by air mail except to Western Europe) take very little longer than photocopies; only to Southern Europe is the difference more than a day.

3.2.5 Total time from requesting to receipt of item

By taking the average processing time for a request at the Lending Division of 3.5 days (obtained from an internal survey conducted in 1979), it is possible to estimate the average time between the submission of requests by a foreign library

TABLE 7

AVERAGE TIMES TAKEN BETWEEN DESPATCH OF REQUESTS FROM DIFFERENT AREAS OF THE WORLD AND RECEIPT BY THE BRITISH LIBRARY LENDING DIVISION, 1979 AND 1974

Area	No. of replies		Mean time (days)	
	1979	1974	1979	1974
Western Europe	1,040	656	8.1(1-41)	4.1(2-12)
Eastern Europe	156	35	7.9(1-41)	11.0(7-19)
Scandinavia	653	243	5.1(1-22)	4.2(1-15)
Southern Europe	319	347	8.2(1-38)	7.1(2-22)
North America	585	254	14.1(3-64)	6.0(3-22)
Central and South America	215	96	11.2(3-35)	9.7(5-25)
Middle East & North Africa	82	103	10.6(6-50)	5.6(3-14)
Africa (South of Sahara)	109	152	9.4(4-39)	6.0(3-19)
Far East & Australasia	381	250	8.9(3-49)	5.0(3-11)
All requests	3,547	2,136	9.3*	6.5*

Figures in brackets are minimum and maximum number of days taken.
The above figures include Saturdays and Sundays.

*This is the mean of the means above, not the mean of all values, to allow for the different proportions of requests from each area in the two surveys and to make comparison with Tables 3 and 4 more valid.

and its receipt of a loan or photocopy in response to a request. Table 12 shows the overall average time for the countries that make most use of the Lending Division's international loan or photocopy services. The possible savings in time by use of telex rather than the postal service for submitting requests are also shown.

3.5 Transmission times in Asia

The study of transmission times between India and five other countries in Asia was carried out by the British Council on behalf of the IFLA Office for International Lending, which designed the survey. It was co-ordinated by the British Council Office in New Delhi, and involved British Council Offices in Lahore (Pakistan(, Kuala Lumpur (Malaysia), Bangkok (Thailand), Dacca (Bangladesh) and Tokyo (Japan). There are direct flights from New Delhi to all these cities. Each of these Offices received from and sent to the New Delhi Office 15 dummy air mail letters containing blank sheets of paper to represent requests and photocopies, 7 parcels of not more than 1 kg by printed paper air mail, and 7 parcels of not more than 1 kg by surface mail. These parcels contained books discarded from the stock of British Council libraries in each country. Each item was marked with a

TABLE 8

AVERAGE TIMES TAKEN BETWEEN DESPATCH OF REQUESTS FROM INDIVIDUAL FOREIGN COUNTRIES AND RECEIPT BY THE BRITISH LIBRARY LENDING DIVISION, 1979

Country	No. of replies	Mean time (days)	Median time (days)	Country	No. of replies	Mean time (days)	Median time (days)
Argentina	9	12.9 (8-22)	13	Korea	51	14.0 (6-22)	10
Australia	103	7.5 (4-27)	7	Kuwait	14	8.4 (6-14)	7
Austria	48	6.0 (3-31)	6	Laos	3	27.0 (27-27)	27
Bangladesh	1	10.0	10	Luxembourg	6	4.3 (4-6)	4
Barbados	1	7.0	7	Malaysia	14	8.5 (6-21)	7
Belgium	320	14.2 (1-41)	7	Malta	2	6.5 (7-7)	7
Botswana	2	8.0 (8-8)	8	Mauritius	1	8.0	8
Brazil	133	10.2 (6-35)	8	Mexico	48	13.9 (3-32)	13
Bulgaria	15	7.7 (1-41)	7	Morocco	8	12.5 (10-20)	13
Canada	53	9.2 (4-18)	10	Netherlands	72	6.4 (3-14)	6
Chile	10	10.2 (7-14)	11	New Zealand	33	6.3 (4-11)	6
China	5	20.3 (8-25)	25	Nigeria	14	16.1 (7-27)	15
Colombia	4	10.2 (4-15)	11	Norway	140	5.5 (1-10)	6
Cyprus	1	1.0	1	Pakistan	2	14.0 (11-17)	14
Czechoslovakia	10	4.5 (4-10)	4	Papua New Guinea	2	11.0 (11-11)	11
Denmark	141	3.4 (1-8)	4	Poland	5	8.3 (4-15)	7
Egypt	1	11.0	11	Portugal	8	6.0 (6-6)	6
Ethiopia	1	13.0	13	Rhodesia	2	6.0 (6-6)	6
Finland	194	5.7 (3-18)	4	Romania	2	13.0 (13-13)	13
France	368	4.8 (1-41)	4	Saudi Arabia	9	7.0 (6-8)	7
Germany, Federal Republic	98	4.9 (1-14)	6	Senegal	1	4.0	4
Ghana	2	13.5 (10-17)	13.5	South Africa	75	7.7 (4-39)	8
Greece	17	7.3 (6-11)	8	Spain	174	7.3 (1-38)	6
Hong Kong	18	8.5 (4-11)	8	Sudan	5	13.9 (13-15)	14
Hungary	53	9.1 (6-15)	8	Sweden	178	5.6 (1-22)	6
Iceland	42	7.5 (4-13)	7	Switzerland	92	6.2 (1-41)	6
India	21	7.3 (4-11)	7	Tanzania	2	11.5 (10-13)	11.5
Indonesia	17	12.8 (8-31)	11	Thailand	5	8.9 (7-10)	10
Iran	4	18.4 (15-20)	20	Trinidad	4	11.9 (8-20)	10
Iraq	15	11.8 (7-36)	10	Turkey	4	8.0 (8-8)	8
Israel	29	10.4 (7-50)	8	USA	532	14.6 (3-64)	10
Italy	114	9.8 (4-36)	8	USSR	39	7.5 (3-18)	7
Jamaica	3	14.6 (8-18)	18	Venezuela	3	10.4 (10-13)	10
Japan	108	7.5 (3-49)	7	Yugoslavia	32	7.2 (4-15)	7
Kenya	3	11.8 (7-21)	8	Zambia	1	11.0	11

Figures in brackets are minimum and maximum number of days taken.

The above figures include Saturdays and Sundays.

coloured sticker and identifying number to denote the category of mail being used, and also with a date and time of dispatch. The identifying number and date and time of dispatch were also noted by the dispatching office on forms provided by the IFLA Office for International Lending. The items were dispatched by each office at different times on different days over a period of four months. Forms were also used by the receiving offices to record the date and time that each item was received, and the date and time of dispatch as noted on the package. Dispatch times could not always be easily identified on the package, and when necessary the information was corrected from the forms maintained by the dispatching offices.

The study was carried out over a four-month period, from September 1979 to January 1980. Surface parcels between New Delhi-Tokyo-New Delhi and New Delhi-Kuala Lumpur-New Delhi were received in January, but the transmission times and dates in each case were such that the Christmas holiday is unlikely to have had a significant effect. In addition, the air parcels from Tokyo to New Delhi were dispatched too late to be included in the results.

The results of the study are summarized in Table 13.

TABLE 9

AVERAGE TIMES TAKEN BETWEEN DESPATCH OF LOANS FROM THE BRITISH LIBRARY LENDING DIVISION AND RECEIPT IN DIFFERENT AREAS OF THE WORLD, 1979 AND 1974

Area	No. of replies		Mean time (days)	
	1979	1974	1979	1974
Western Europe	229	18	5.4 (1-32)	13.3 (7-34)
Eastern Europe	115	48	8.5 (3-27)	16.9 (4-26)
Scandinavia	257	15	5.5 (3-18)	9.3 (4-13)
Southern Europe	47	3	9.6 (4-25)	38.7 (37-40)
North America	3	6	8.7 (7-14)	18.2 (5-30)
Central and South America	0	0	-	-
Middle East & North Africa	0	1	-	27.0
Africa South of Sahara	4	1	15.7 (11-24)	28.0
Far East & Australasia	18	0	7.9 (4-13)	-
All loans	679	92	8.8*	21.6*

Figures in brackets are minimum and maximum number of days taken.

The above figures include Saturdays and Sundays.

*This is the mean of the means above, not the mean of all values, to allow for the different proportions of items sent to each area in the two surveys and to make comparison with Tables 7 and 10 more valid.

The size of the sample used for this survey is very small and results cannot be considered conclusive. A larger survey might have yielded quite different results. However, the fact that material was sent over a period of time at different times on different days of the week may have compensated to some extent for this and helped to reduce the influence of any temporary abnormalities in the services. Surface parcels from New Delhi to Kuala Lumpur, Bangkok and Tokyo were dispatched on the same seven days of an eleven-day period. The arrival dates in each country show that these parcels were probably batched at some point. It is not clear whether this was due to difficulties of the Indian postal service, or, as is more likely, to the periodicity of shipping services to these countries. British Council officials were asked to draw attention to any particular factors likely to have influenced the results, but none were indicated.

Losses of items (shown in Table 14) were quite high. The figures for particular channels should not be regarded too seriously, because the sample was small, but over the whole survey the loss rates cannot be ignored; nor are the exceptionally heavy losses between Bangkok and New Delhi likely to be due to chance.

In the case of parcels from Lahore to New Delhi it is not clear whether the transmission of surface parcels by air was due to the postal service or to individual error. It may be noted that while surface parcels occasionally seem to have been sent by air, the reverse was never the case.

TABLE 10

AVERAGE TIMES TAKEN BETWEEN DESPATCH OF PHOTOCOPIES FROM THE BRITISH LIBRARY LENDING DIVISION AND RECEIPT IN DIFFERENT AREAS OF THE WORLD, 1979 AND 1974

Area	No. of replies		Mean time (days)	
	1979	1974	1979	1974
Western Europe	811	656	4.7 (1-18)	4.8 (1-30)
Eastern Europe	41	35	5.9 (4-14)	9.3 (4-17)
Scandinavia	396	243	5.0 (1-20)	5.7 (2-29)
Southern Europe	272	347	7.0 (1-43)	6.9 (1-42)
North America	582	254	8.5 (3-38)	5.8 (2-21)
Central and South America	215	96	10.9 (4-38)	7.7 (4-13)
Middle East & North Africa	82	103	8.7 (3-21)	7.8 (4-18)
Africa South of Sahara	105	152	7.0 (1-25)	6.8 (1-13)
Far East & Australasia	363	250	7.1 (3-28)	7.4 (4-31)
All photocopies	2,868	2,136	7.2*	6.9*

Figures in brackets are minimum and maximum number of days taken.

The above figures include Saturdays and Sundays.

*This is the mean of the means above, not the mean of all values, to allow for the different proportions of items sent to each area in the two surveys and to make comparison with Tables 7 and 9 more valid.

TABLE 11

AVERAGE TIMES TAKEN BETWEEN DESPATCH OF LOANS FROM THE BRITISH LIBRARY LENDING DIVISION AND RECEIPT BY INDIVIDUAL FOREIGN COUNTRIES, 1979

Country	Photocopies			Loans		
	No. of replies	Mean time (days)	Median time (days)	No. of replies	Mean time (days)	Median time (days)
Argentina	9	11.2 (6-18)	11	0	-	-
Australia	97	6.4 (4-14)	7	6	8.6(7-13)	8
Austria	8	7.4 (4-17)	6	40	4.9(1-10)	4
Bangladesh	1	4.0	4	0	-	-
Barbados	1	6.0	6	0	-	-
Belgium	278	4.8 (3-18)	4	42	4.6(1-15)	4
Botswana	1	10.0	10	1	24.0	24
Brazil	133	9.7 (4-38)	10	0	-	-
Bulgaria	4	10.5 (8-14)	10	11	5.0(3-8)	6
Canada	51	7.5 (3-18)	7	2	10.5(7-14)	10.5
Chile	10	11.3 (6-21)	10	0	-	-
China	5	11.3 (7-14)	13	0	-	-
Colombia	4	7.2 (6-8)	7	0	-	-
Cyprus	1	1.0	1	0	-	-
Czechoslovakia	0	-	-	10	10.1(8-15)	11
Denmark	63	7.7 (3-20)	7	78	6.4(3-18)	7
Egypt	1	20.0	20	0	-	-
Ethiopia	1	7.0	7	0	-	-
Finland	99	4.4 (1-10)	4	95	5.6(3-17)	6
France	284	4.5 (1-18)	4	84	5.6(1-15)	6
Germany, Federal Republic	91	4.2 (1-7)	4	7	8.9(4-18)	7
Ghana	2	7.5 (7-8)	7.5	0	-	-
Greece	16	7.3 (3-15)	7	1	4.0	4
Hong Kong	18	7.3 (4-24)	7	0	-	-
Hungary	12	6.3 (6-8)	7	41	7.2(3-15)	7
Iceland	23	8.3 (4-15)	7	19	9.8(4-32)	8
India	18	4.8 (3-8)	6	3	9.0(7-11)	10
Indonesia	17	7.8 (4-15)	7	0	-	-
Iran	4	11.4 (10-13)	11	0	-	-
Iraq	15	9.8 (6-21)	7	0	-	-
Israel	29	9.7 (6-14)	10	0	-	-
Italy	99	9.0 (4-43)	7	15	14.3(4-25)	14
Jamaica	3	16.7 (8-24)	18	0	-	-
Japan	100	6.2 (3-18)	6	8	7.0(4-10)	7
Kenya	3	6.2 (1-11)	7	0	-	-
Korea	51	8.8 (7-11)	8	0	-	-
Kuwait	14	7.2 (6-11)	8	0	-	-
Laos	3	6.0 (6-6)	6	0	-	-
Luxembourg	0	-	-	6	3.4(3-4)	4
Malaysia	13	12.9 (4-28)	8	1	7.0(7-7)	7
Malta	1	4.0	4	1	6.0(6-6)	6
Mauritius	1	3.0	3	0	-	-
Mexico	48	13.9 (6-28)	11	0	-	-
Morocco	8	8.4 (4-18)	7	0	-	-
Netherlands	48	4.5(3-10)	4	24	4.9(3-14)	4
New Zealand	33	7.4(4-11)	8	0	-	-
Nigeria	13	12.9(7-25)	10	1	14.0	14
Norway	87	4.3(1-11)	4	53	4.7(3-10)	4
Pakistan	2	5.5(4-7)	5.5	0	-	-
Papua New Guinea	2	9.5(8-11)	9.5	0	-	-
Poland	0	-	-	5	9.9(6-21)	8
Portugal	8	4.7(3-7)	6	0	-	-
Rhodesia	1	6.0	6	1	14.0	14
Romania	0	-	-	2	27.0	27
Saudi Arabia	9	5.0(3-7)	6	0	-	-
Senegal	1	7.0	7	0	-	-
South Africa	74	5.8(3-21)	6	1	11.0	11
Spain	144	5.7(1-38)	6	30	7.5(3-21)	7
Sudan	5	10.3(7-13)	11	0	-	-
Sweden	147	4.6(1-13)	4	31	4.7(3-8)	6
Switzerland	79	4.5(1-10)	4	13	4.8(4-7)	6
Tanzania	2	9.5(8-11)	9.5	0	-	-
Thailand	5	9.1(7-13)	10	0	-	-
Trinidad	4	8.6(7-13)	7	0	-	-
Turkey	4	8.3(4-11)	8	0	-	-
USA	531	8.6(3-38)	8	1	10.0	10
USSR	0	-	-	39	9.7(4-20)	9
Venezuela	3	18.8(6-27)	25	0	-	-
Yugoslavia	25	5.0(4-8)	6	7	6.2(4-8)	7
Zambia	1	7.0	7	0	-	-
TOTAL	2,868			679		

Figures in brackets are minimum and maximum number of days taken.

The above figures include Saturdays and Sundays.

The results show clearly that in the region studied, surface mail is unacceptably slow for document delivery and there is no reason to believe that it could be different in other regions. The use of this method to supply and return materials, combined with a probable loan period of twenty-eight days, could result in the absence of material from the supplying institution for over seven months; if libraries are willing to supply items at all under such conditions, the supply time is unlikely to satisfy potential borrowers. IFLA has strongly recommended that air mail be used for international loan requests. It must also be remembered that these supply times are between major cities with good communications; to deliver material to the interior of a country where communication is likely to be less satisfactory would considerably increase these supply times.

Distance appears to be totally unrelated to the speed of transmission. New Delhi-Tokyo and Tokyo-New Delhi were faster than any other route, although Tokyo is much further from New Delhi than any of the other cities.(1) New Delhi-Lahore and Lahore-New Delhi were the slowest routes, although New Delhi is much closer to Lahore than to any of the other cities. In any case, distance need not be relevant to the speed of transmitting requests, which can, in theory at least, be sent by telex or computer.

TABLE 12

AVERAGE TIME TAKEN (DAYS) BETWEEN DESPATCH OF REQUEST TO THE BRITISH LIBRARY LENDING DIVISION AND RECEIPT OF ITEM REQUESTED (COUNTRIES USING LENDING DIVISION SERVICES MOST)

Country	Postal		Telex	
	Loan	Photocopy	Loan	Photocopy
Belgium	22.3	22.5	8.1	8.3
Brazil	-	18.5	-	8.3
Denmark	13.3	14.6	9.9	11.2
Finland	14.8	13.6	9.1	7.9
France	13.9	12.8	9.1	8.0
Germany, Federal Republic	17.3	12.6	12.4	7.7
Hungary	19.8	18.9	10.7	9.8
Italy	27.6	22.3	17.8	12.5
Japan	18.0	17.2	10.5	9.7
Norway	13.7	13.3	8.2	7.8
Spain	18.3	16.5	11.0	9.2
Sweden	13.8	13.7	8.2	8.1
USA	27.8	26.7	13.2	12.1
USSR	20.7	-	13.2	-

The above figures include Saturdays and Sundays.

(1) Approximate direct distances (not flight path distances) from New Delhi are, in miles: 3,640 to Tokyo, 2,400 to Kuala Lumpur, 1,800 to Bangkok, 800 to Dacca and 325 to Lahore.

TABLE 13

TIME TAKEN FOR AIR LETTERS, AIR PARCELS AND SURFACE PARCELS BETWEEN NEW DELHI AND FIVE OTHER ASIAN CITIES

	Air letters			Air parcels			Surface parcels		
	No. of items	Mean average (days) (range)	Median	No. of items	Mean average (days) (range)	Median	No. of items	Mean average (days) (range)	Median
New Delhi - Lahore	15	7.9 (4-20)	6	7	8.4 (4-12)	9	7	11 (7-17)	9
Lahore - New Delhi	15	8.2 (3-16)	7	7	5.5 (4-7)	6	7[1]	5.9 (4-7)	6
New Delhi - Kuala Lumpur	13[2]	8.8 (4-17)	8	7	11.3 (9-18)	10	7[3]	87.9 (83-93)	87
Kuala Lumpur - New Delhi	14[4]	5.6 (3-10)	5	5[5]	4.2 (3-6)	4	5[6]	70.2 (65-76)	70
New Delhi - Bangkok	15[7]	6.2 (4-11)	6	7	10.7 (7-13)	11	7	65.6 (61-71)	64
Bangkok - New Delhi	9[8]	4.7 (3-7)	4	3[9]	3 (2-5)	-	2[10]	76.5 (68-85)	-
New Delhi - Dacca	15	6.9 (4-20[11])	6	7	8.9 (6-12)	8	7	22.3 (17-27)	22
Dacca - New Delhi	15	5.5 (3-7)	6	3[12]	20.3 (15-30)	16	5[13]	21 (14-26)	21
New Delhi - Tokyo	15	6.1 (4-8)	6	7	10.1 (8-12)	10	7[3]	105.9 (102-111)	104
Tokyo - New Delhi	15	4.3 (2-7)	4				7	79.4 (74-82)	81

1 All the parcels sent by surface mail probably went by air (times were identical to those for air parcels).

2 2 air letters lost.

3 Surface parcels despatched over 11 days but received on 2 consecutive days: probably bunched.

4 1 air letter lost.

5 2 air parcels lost.

6 2 went by air: excluded from analysis.

7 Surface parcels despatched over 11 days but received on same day: probably bunched.

8 6 air letters lost.

9 4 air parcels lost.

10 3 surface parcels lost. 2 went by air: excluded from analysis.

11 The next longest time was 9 days: the 20-day time was possibly due to a public holiday.

12 4 air parcels lost.

13 1 surface parcel lost. 1 went by air: excluded from analysis.

TABLE 14

LOSS RATES FOR VARIOUS FORMS OF MAIL BETWEEN NEW DELHI AND FIVE OTHER ASIAN CITIES

	Despatched	Received	Lost	
			No.	%
Air letters				
New Delhi - Lahore	15	15	0	-
Lahore - New Delhi	15	15	0	-
New Delhi - Kuala Lumpur	15	13	2	13%
Kuala Lumpur - New Delhi	15	14	1	7%
New Delhi - Bangkok	15	15	0	-
Bangkok - New Delhi	15	9	6	40%
New Delhi - Dacca	15	15	0	-
Dacca - New Delhi	15	15	0	-
New Delhi - Tokyo	15	15	0	-
Tokyo - New Delhi	15	15	0	-
Air parcels				
New Delhi - Lahore	7	7	0	-
Lahore - New Delhi	7	7	0	-
New Delhi - Kuala Lumpur	7	7	0	-
Kuala Lumpur - New Delhi	7	5	2	28%
New Delhi - Bangkok	7	7	0	-
Bangkok - New Delhi	7	3	4	57%
New Delhi - Dacca	7	7	0	-
Dacca - New Delhi	7	3	4	57%
New Delhi - Tokyo	7	7	0	-
Surface parcels				
New Delhi - Lahore	7	7	0	-
Lahore - New Delhi	7	7	0	-
New Delhi - Kuala Lumpur	7	7	0	-
Kuala Lumpur - New Delhi	7	7	0	-
New Delhi - Bangkok	7	7	0	-
Bangkok - New Delhi	7	4	3	43%
New Delhi - Dacca	7	7	0	-
Dacca - New Delhi	7	6	1	14%
New Delhi - Tokyo	7	7	0	-
Tokyo - New Delhi	7	7	0	-

3.4 Comparison of transmission times within Asia and between Asia and and the United Kingdom

It is interesting to compare these results with international supply times from the British Library Lending Division, as ascertained in the survey reported above. As all material supplied from the Lending Division is sent by air the transmission times for surface parcels are omitted, and as not all borrowers from the Lending Division send requests by air mail only the times taken to supply items (photocopies and loans) are compared. The comparison is shown in Table 15.

TABLE 15

TRANSMISSION TIMES FROM NEW DELHI TO FIVE ASIAN CITIES COMPARED WITH SUPPLY TIMES FROM THE BRITISH LIBRARY LENDING DIVISION TO THE RELEVANT COUNTRIES

New Delhi to:	Air letters		Air parcels	
	No. of items	Mean time (days)	No. of items	Mean time (days)
Lahore	15	7.9 (4-20)	7	8.4 (4-12)
Kuala Lumpur	13	8.8 (4-17)	7	11.3 (9-18)
Bangkok	15	6.2 (4-11)	7	10.7 (7-13)
Dacca	15	6.9 (4-20)	7	8.9 (6-12)
Tokyo	15	6.1 (4-8)	7	10.1 (8-12)

British Library Lending Division to:	Air letters		Air parcels	
	No. of items	Mean time (days)	No. of items	Mean time (days)
Pakistan	2	5.5 (4-7)	-	
Malaysia	13	12.9 (4-28)	1	7.0
Thailand	5	9.1 (7-13)	-	
Bangladesh	1	4.0	-	
Japan	100	6.2 (3-18)	8	7.0 (4-10)

Figures in brackets are minimum and maximum times.

As noted above, regional transmission times are between major centres only, whereas transmission times from the Lending Division are to institutions throughout these countries, including some in remote places, and allowance should be made for the additional time such items will take. Even without allowing for this, four of the seven comparable times are better from the Lending Division than from New Delhi and one is virtually the same. The very small numbers involved in this comparison suggest great caution in comparing these figures, and they should be regarded as of general interest, not conclusive data.

3.5 Conclusions

The surveys reported above cannot of course provide a comprehensive and definitive answer to the question of the extent to which distance affects supply. So far as South, South-East and East Asia are concerned, it seems that not only does proximity not improve speed, but it bears no relationship to it at all. Not only that, but times within Asia are much the same as between Asia and the United Kingdom. This may appear surprising until it is remembered that air travel times between major cities anywhere in the world are no longer than 30 hours at the most, even when it is necessary to change planes. The difference between a 6-hour flight and a 30-hour flight is no more than a day. As noted, surface mail is so slow that it cannot be considered an acceptable alternative to air mail but air mail of loans is little slower than air mail of photocopies.

Although the results of the second survey relate only to Asia, similar results could be expected in other areas of the world, especially since the first survey showed relatively small differences in transmission times between the United Kingdom and Asia and the United Kingdom and other areas of the world. All the cities in Asia covered in the second survey have international airports. Cities not served by airports would receive a less good service, but, apart from the fact that relatively few of such cities are major research centres, the slower service is unrelated to the distance between countries - it is no quicker to serve Agra, some 190 kilometres from New Delhi, from Lahore than from London if the air service from Lahore to New Delhi is little or no faster than from London. The critical factor in this case is the postal service between New Delhi and Agra.

The differences between the times reported, whether between Asian cities or between the United Kingdom and different parts of the world, are almost entirely due to differences in the postal services of the countries concerned. A country with a poor postal service will not obtain a good service from, nor give a good service to, any other country, however near or far it may be; while two countries with good postal services can, if their libraries are efficient, give a fast service to one another whether they are close to one another or distant.

4. FACTORS RELEVANT TO THE PLANNING OF INTERNATIONAL AVAILABILITY

4.1 Components of an international availability system

The components of international availability are:

(a) Provision. If material has not been acquired it cannot be supplied. Alternative modes of provision are a main subject of this report.

(b) Location. Provision is of no use unless the material can be located - unless it is possible to find out which country has the required items, and within the country which source or sources of supply. Location is closely related to provision, since the mode of provision greatly affects the accuracy and ease of location.

(c) Supply. Material once located must be supplied, in loan or copy (hard copy or microform). Ability to supply may be affected by the mode of provision.

Both location and supply need efficient procedures.

Different kinds of material may have different requirements and need different solutions.

4.2 Requirements of an international supply system

The main criteria by which an international supply system must be judged are the same as for national lending systems, namely:

Satisfaction rate (proportion of requests satisfied).

Speed of supply.

Cost.

The satisfaction rate will depend partly on the ability to locate wanted items with reasonable accuracy or with a high probability of success, partly on the ability of libraries holding wanted items to supply them. A high satisfaction rate can hardly be achieved without efficient national systems, although in theory a high international satisfaction could be achieved by a single world source of supply, so that (again in theory) only the country in which that source was located need have an efficient national system.

Speed of international supply will also depend on the efficiency of national systems, although a hypothetical single world centre might achieve fast supply to all countries. Speed also depends on the simplicity and uniformity of procedures, including not only requesting and supplying procedures but payment procedures; it depends too on the efficiency of requesting libraries, which may be as guilty as supplying libraries in causing delays - they may well be more guilty, since they handle each transaction twice, at the requesting stage and at the stage of receiving and supplying to the user, whereas supplying libraries normally handle a transaction once only.

A system that cannot supply a high proportion of wanted items within a short time is of little use; and, other things being equal, the cheapest system should be adopted. In calculating the costs of any system, the full costs should be taken into

account, including those incurred by the supplying library (and country) as well as those incurred by the requesting library (and country). This point is taken up later (4.7).

Two requirements that are relevant to national lending systems apply equally to international systems:

Ease of use.

Ability to monitor demand.

Ease of use is obvious; it is related to speed of supply and cost. It is determined not only by procedures, which as noted in Chapter 1 should be simple and standard, but by the system itself: obviously it is easier to send all requests to one place than to many, though it may be undesirable for other reasons.

Unless demand can be monitored, deficiencies cannot easily be identified, and provision cannot therefore readily be improved. Here again a single source of supply would have an advantage over multiple sources of supply: the more libraries that are involved, the greater the difficulty of monitoring. There are strong reasons why each country should monitor requests for its own national imprints, since it is incumbent to achieve a comprehensive supply of its own publications. This obligation has been accepted by IFLA.

A requirement that does not apply, or not with the same force, to national systems, is:

Stability - insensitivity to political, economic or other change.

A regional system based on a temporary political alliance of convenience would be, for example, less stable than one based on mutual self-interest and hard economic realities.

The system should be not only stable in concept but should possess:

Robustness.

Unless it is robust in design it will not be able to cope with large increases of fluctuations in demand, or to ride over temporary problems, for example of staffing.

There is another requirement that is difficult to express in a short self-explanatory phrase; perhaps the best term might be:

Supportiveness.

By this is meant that the international system should not be such as to discourage adequate national provision (just as a national system should not be such as to discourage adequate local provision). It should support national systems, not serve as any sort of substitute for them. A permanently "free" or heavily subsidized internatioal service could deter a parsimonious government from building up adequate national library resources (see 4.7), though a temporarily subsidized service can have the contrary effect by helping to build up demand to a level where the need for an effective national system becomes evident. Indeed, a good service from another country can help to further a national system by supplying during its critical period of growth items it has not yet been able to acquire and by helping to identify items in demand that it should acquire.

An international system should be supportive in another sense; it should not in any way reduce the obligation, incentive or opportunity of countries to achieve full availability of their own publications.

Both stability and supportiveness argue for a sound economic basis of any international lending system. It has been observed that countries that are not friendly enough to co-operate in ways that are "free" or cheap frequently continue to trade, because the making and paying of an economic charge make an activity to a great extent independent of political considerations, so long as the goods in question are not themselves bound up with the political issues.

As with supportiveness, a service for which full direct costs have to be paid is unlikely to be used excessively for long, because national provision of the more commonly wanted items would be more economic. The point of economic balance between national and international provision indicates the lowest level of national provision that should be aimed at. Without the payment of true costs, there is no means of establishing this level. It may of course for other reasons be decided to go well beyond this minimum.

The arguments above and in 4.7 suggest a further requirement of an international lending system:

Economic soundness.

This implies that, as noted above, the cost criterion should be the true costs, not the costs that happen to be incurred by the requesting library or country, which may be artificially reduced by subsidy, overt or hidden, on the part of the supplying library or country.

Finally, there is one requirement that does not apply to national systems:

Exhaustiveness.

An international system should have as an ideal aim totally inclusive and comprehensive provision, because it is the ultimate system. As national systems should aim to supply a high proportion of what local libraries cannot provide, so an international system must try to supply what national systems cannot provide; and since the performance of national systems will vary, this means potentially all published documents.

4.3 Nature of international demand

International demand is likely to differ from national demand in several respects, all relating to the extent of national provision in the country of the requesting library. Since the more straightforward requests would normally be met nationally, the proportion of "difficult" requests should be higher. One would expect in particular a higher proportion of requests for older material, for such forms of material as theses, conference proceedings, and to a lesser extent for report literature and official publications. One would also expect the demand for journals to be less concentrated on a small number of titles.

The proportion of journals requested should be lower, because adequate national provision of journals is much easier to make than of books, not to mention other forms. However, this does not appear to be the case in practice, since many countries do not make adequate and systematic provision of journals for fast supply, and if a centre in another country can supply them quickly libraries may well apply to it rather than using their own system.

In developing countries, a fair amount of demand can be expected for publications relating to their past history, including and perhaps especially that of the colonial period. Much of this demand could be satisfied nationally if the documents

in question, most of which are held in libraries in ex-colonial powers, were systematically microfilmed. One or two programmes of this kind are already under way, but it will be many years before the international demand for documents of this kind is reduced by these means.

4.4 Amenability to copying

Among the types of documents that may be requested, one may distinguish two main categories: on the one hand books, which are normally too long to copy and are in any case protected by law from extensive copying in most countries; on the other hand, articles from journals and conference proceedings, and reports in microforms, which are easier to copy. The distinction is not clear cut, because some books are collections of essays, which can be copied separately. On the other hand some journals consist of or contain issues that are in effect monographs.

Materials that can be easily copied can be sent cheaply by fast methods such as air mail (and in future possibly by digital facsimile). The original publication is retained by the supplying library, so that it cannot be lost in transit, and it is also available for other users. Furthermore, in the case of journals, the most wanted items can be predicted from past use, so that it is possible to select a limited number of titles that will satisfy most of the demand.

Finally, journals from most countries can be acquired fairly readily through agents. Reports present more problems, but many of the more important series can be acquired as a package in microform. Conference proceedings are far more difficult to identify and acquire, but easy to supply once acquired provided that single papers only are wanted.

Books, on the other hand, normally have to be lent; microfilms can be made of works that are out of print, but this is an expensive procedure. Transmission by air mail is expensive, by surface mail very slow over long distances. Books lent to other countries may be absent for several months. Control records have to be kept to ensure recall and return. Books in demand have to be acquired in more than one copy if the demand is to be met. Identifying and acquiring books from many countries is a difficult, slow and uncertain process, often requiring active agents in the countries in question.

It is clear that materials which cannot be copied easily are far more difficult to provide and supply than journals and other materials easy to copy. Most international demand - probably about two-thirds - is for journals, but that still leaves a large number of books - 300,000 or more - to be supplied. The proportion of demand for books, which varies greatly between countries, would probably increase considerably if the difficulties, delays and costs of obtaining them were not so great.

In brief, journals are easy to select, relatively easy to acquire, and cheap to supply; articles can be transmitted quickly without danger of loss of the original; and use is high relative to the cost of provision. Books on the other hand are very difficult to select, difficult to acquire, and costly to supply; they are subject to loss or damage; and use is relatively low, relative to the cost of provision.

The distinction between journals, reports and conference proceedings on the one hand, and books on the other, will be referred to in subsequent sections as "copiable" and "non-copiable" materials.

4.5 Availability of current and older material

Material of different dates also poses different problems. The provision of current (and future) material can be improved greatly given the finances and

machinery for acquisition and provision - nationally (especially by appropriate and effective legal deposit) regionally and internationally. Any plan would need to be designed to deal primarily with current and future material. It would not necessarily improve availability of older material. Much recent material - published, say, in the last five or ten years - can be acquired because it is still in print, and its acquisition would certainly be desirable for a centralized supply source. A certain amount of useful material can be acquired secondhand, especially back runs of journals. Some items are republished, usually in microform; and in special cases facsimiles can be made of copies in other libraries. Otherwise, provision of older material is hard to extend.

However, access to older material can be improved. This must be almost entirely the responsibility of national systems, and must consist largely of the establishment or improvement of union catalogues. Improved national availability can and should lead to improved internatioal availability.

4.6 Barriers to international availability

Barriers can be roughly categorized as barriers of existence, of location, supply and delay.

(a) Items that are no longer in existence.

Some documents no longer exist, even in a single copy. It is always possible that a copy will turn up somewhere, but the effort and time of search would be out of all proportion to the likelihood of success.

(b) Items that exist but cannot be located

Many items almost certainly exist, but cannot be located. The solution for older material lies in improved union catalogues, starting with the libraries with the most extensive holdings. This is in any case desirable for national interlending systems. For current material, dramatic improvements can be achieved by more systematic provision.

(c) Items that can be located but are not available

Libraries may be unwilling to lend because:

(i) regulations forbid lending - only a change of regulations can alter this, though if the library in question is the only one identified as holding the item, it will fall into category (ii) below;

(ii) the item in question is unique, rare, or otherwise valuable - this does not apply to many items;

(iii) the item is fragile;

(iv) the item is in use at the time, or likely to be in demand (e.g. recently acquired, or specially acquired for a particular user or academic course);

(v) long absence from the library is likely to be unacceptable - this can be overcome or minimized by tackling delays (see (d) below);

(vi) there is danger of loss or damage in transit.

Libraries may be unwilling to provide copies (actual size or microform) because:

(i) the item is very fragile or liable to be damaged in copying - this does not apply to many items;

(ii) copyright rules forbid copying (e.g. of a whole book).

(d) Items that are available but only after delay

Delays can occur:

(i) in wrong or unwise choice of source of supply. Better information or more experience are needed;

(ii) in locating items within the country receiving the request. This must be the responsibility of the country, provided the request is within its reasonable scope;

(iii) in the requesting library. Only the requesting library can deal with this;

(iv) in the supplying library;

(v) because of procedures within the country of the requesting library. The obvious solution lies in the improvement of procedures;

(vi) because of procedures within country of supplying library. Same comment as (v);

(vii) in postal system of requesting country. Libraries can do nothing about this;

(viii) in postal system of supplying country. Same comment as (vii);

(ix) in transit between countries. Not a serious cause of delay if air mail is used (see Section 3);

(x) in the customs.

Some of the above barriers are insuperable by libraries, while others are difficult to overcome. The main conclusions to be drawn are:

(i) copies should be supplied rather than loans wherever possible;

(ii) air mail should always be used, for requests, loans and copies;

(iii) union catalogues need extension and improvement in many countries, at any rate for non-current items;

(iv) interlending procedures, both within and between countries, should be improved - and observed;

(v) processing of requests, in requesting and supplying libraries and where relevant in national centres, may need improvement;

(vi) guidance as to appropriate sources of supply would be useful;

(vii) more systematic provision is needed for current and future publications.

Several of these conclusions are equally relevant to national interlending systems. The critical conclusions so far as this study is concerned are (vi) and (vii). Better guidance and more systematic provision could help to overcome or reduce the other barriers; for example, efficient sources would observe (i) and (ii), make (iii) less necessary for current and future publications, and reduce problems in (iv) and (v).

4.7 Cost recovery for international transactions[1]

The concept of free international lending sounds attractive in principle. It avoids cumbersome procedures of repayment, which must often in total cost more than the amount reclaimed. It means that no country, however poor, need be prevented for economic reasons from applying for documents required by readers. Granted the strength of these points, there are a number of serious arguments, both in practice and in principle, against an entirely free international loan service.

(a) Interlibrary borrowing is not, and never can be entirely free. The procedures of receiving a request from a reader, checking it against a library's own catalogue, adding necessary bibliographic details, deciding where the request should be sent, sending it off, notifying the reader when it arrives, keeping track of whether it is overdue and recalling it if necessary, and returning it to the lending library when finished with - all these costs must add up in the United Kingdom to the equivalent of at least £4.00 for each item. It could of course be argued that this is all the more reason why costs should not be further increased by repayment of costs incurred by the lending library, but the point is that the concept of an interlending service that incurs no costs is not tenable.

(b) If international lending is "free", in the sense that no costs other than those necessarily incurred locally are payable, no country has any financial incentive to improve its overall national availability of documents. At least in theory, a country could depend entirely on the charity of other countries, provided it had the staff to check and send off requests, and the money to return items when finished with. If, on the other hand, a direct cost is incurred for each item borrowed or acquired as a photocopy, it quickly becomes more economic to make certain that items required more than very occasionally are available nationally. This of course applies only to publications in print at any one time, but the buying of current publications over a continued period gradually builds up collections that will satisfy demands for items that are no longer available currently.

(c) The first responsibility of any country's library system must always be to that country. While it may accept a responsibility to supply at least its native publications to libraries abroad, this service should not be to the detriment of the national service. This is particularly the case when national libraries, or other libraries supported directly by the state, bear a large part of the burden of international lending. If large sums of a national library's money were spent on a service to foreign libraries, the practice of giving this service could well be challenged at a high level.

(d) The converse is of course true: that a national library or centre operating on behalf of individual libraries might well be challenged if it incurred the expenditure of large sums of money in borrowing from foreign libraries. However, this practice could be defended on the grounds that the national library has a national responsibility, and if there are difficulties the individual libraries could be required to repay at least some of the costs of the national centre. If this were done, the total amount of borrowing from abroad by any individual library in a given

(1) This section is a revision of an article by M.B. Line in IFLA journal (Munich & New York), Vol. II, No. 2, 1976, pp. 81-85.

year would probably be so small that it would find no difficulty at all in payment. That is, while the total national interlending costs incurred may well be substantial, these costs, if distributed among individual libraries making use of the service, become relatively trivial.

(e) International borrowing is normally used for items that are very important to the reader. The cost of satisfying such requests by any other means would in nearly all cases be much higher. Even if a book is in print, it will often cost much more than the total cost of international borrowing, and if it is not in print the cost of obtaining it secondhand, if indeed it is obtainable at all, may be very high indeed, quite apart from the delays likely to be incurred. If interlibrary borrowing is not substantially cheaper than alternative methods of provision, it ought not of course to be used. Thus, even if all costs of international borrowing were payable, they should still not be considered an expensive way of satisfying an important need.

(f) Some countries lend very much more than they borrow. An entirely free system would place them at a very serious disadvantage. Even if national libraries on public funds were allowed to incur expenditure of a large order - amounting perhaps to as much as one or two million dollars a year - to serve other countries without recompense, they would have little incentive, to say the least, to give an international service beyond a certain level. Further, other countries might well be very reluctant to ask them, knowing the scale of expenditure involved. Thus, those countries with well-developed services, particularly with central loan collections, would tend to opt out of the system, and the whole service would suffer greatly by this. This can certainly happen within countries; in the U.S.A. the heavy burden borne by a few libraries has led both to limited lending by some of them and to national studies of possible repayment systems.

(g) In some countries, copyright regulations require the repayment of costs incurred in photocopying. Some countries therefore with a heavy outgoing traffic could not avoid charging for most of this. Photocopying should be encouraged in preference to lending, where it is possible, since it is usually cheaper, it is faster, it does not involve items going out of the library, and it makes retention by the reader requiring the item possible; any system therefore that encouraged loans rather than photocopies would be very undesirable. Yet this would be the result if charges were made for photocopies but not for loans. Countries would then be tempted to ask for loans of journal volumes rather than photocopies of required articles, thus slowing down the service, greatly increasing total cost, and making libraries much less willing to supply large numbers of items; the net effect would therefore be to reduce the total availability of documents.

(h) On the assumption that international loan requests are for items wanted seriously, and possibly quite urgently, all possible delays should be avoided. Where items are supplied over large distances, air mail is essential if speed of service is to be achieved. Not merely does it enable items to reach readers much more quickly, but it makes libraries much less reluctant to lend because their books are absent from the library for a much shorter time. However, air mail is much more expensive than surface mail, and it would not be reasonable to expect libraries to send items by air mail if they are incurring all the cost themselves.

(i) As argued in 4.2 above, economic charges can put transactions between countries on a trading basis and thus lead to a more stable system than one dependent on friendly co-operation, which is much more vulnerable to changes in relationships between the countries involved.

Some of these arguments are stronger than others, but altogether they seem to constitute a very powerful case for charging. Voluntary co-operation may be adequate when traffic is on a small scale, but this is no longer the case with international lending.

This is not to say that some waiving of costs is not possible, nor that all costs should be recovered. When the transactions of two countries are roughly in balance, it is quite reasonable for them to agree to waive charges. It may also be possible to waive charges for countries, particularly developing countries, that make very few demands in total. In some cases, appropriate national ministries, or international bodies, may agree to subsidize developing countries, so that the lending libraries recover costs without the borrowing libraries having to incur them. This answers the point that a paid service might prevent poorer countries from using it.

As for the amount of costs that should be recovered, to recover total costs would be unreasonable. Total interlending costs would include a contribution towards the acquisition of the item lent, a depreciation factor, all staff costs, overheads, packing, stationery, and postage. It may not always be easy to calculate such a sum, but it could well be large. It is best to assume that items have already been acquired anyway, and that they are also being accommodated and maintained. Since books are for use, their use should be encouraged, particularly as in many cases the items wanted are relatively rare ones which might otherwise not receive much use. Another possible calculation would be the total marginal cost of a transaction - that is, all the costs incurred in carrying out a particular transaction, including staff labour, packing, stationery and postage. In libraries with a small volume of traffic, a few international transactions can be absorbed in the general system without additional costs being incurred apart from those of packing and postage, but in a large system, it is possible to calculate how many additional staff are required to handle a given number of additional transactions. Depending on the efficiency of the lending library, the marginal cost (excluding postage) of supplying an average photocopy or loan may be in the order of £2.00.

Finally, the charge can be based on the average cost of making and transmitting a photocopy, or of supplying an item on loan, by air mail if necessary; that is, labour and stationery costs would not be included. These three possible systems are not necessarily alternatives: for example, it may be reasonable to reclaim total marginal costs for photocopies, particularly when the volume of transactions is very large, and to recover only postage costs for loans. It should be borne in mind that libraries that supply very large numbers of photocopies have economies of scale which can make their total marginal costs very little, if any, higher than the photocopying costs alone in many libraries. Again, cost recovery could be based on a stated proportion of total, marginal, or direct costs.

It will be generally agreed that, ideally at least, some standard system of repayment would be highly desirable. The obstacles in the way of this, in a world where exchange rates are very unstable, are large and obvious. Nevertheless, it may at some time in the future be possible to work towards a greater degree of standardization, and if so this would undoubtedly require compromise. This makes it more rather than less important that principles of repayment should be agreed.

The argument that the procedures of reclaiming and repayment can incur greater costs than the amount reclaimed holds good only if sums are reclaimed individually for each transaction. One possible alternative is to let the charges accumulate, so that an invoice can be sent to the borrowing library or library or national centre perhaps every six or twelve months. This can be further simplified by charging average rather than precise costs; the calculation of averages is not

usually difficult, and any slight undercharging would in any case be more than compensated for by the accounting costs saved at both ends. Another possibility is to establish a deposit account. A still better alternative is prepayment. Either coupons or forms can be bought in batches, and the costs of these calculated on an average basis. The only financial transaction incurred is when the batches of forms or coupons are bought. Administrative costs are thus cut to a minimum. Whether such a system of prepayment can be established internationally, or at least extended much more widely, remains to be seen, but it is certainly worth exploration in view of the very great potential advantages. It would be absurd if national principles of repayment were laid down and then defeated utterly in practice by an expensive reclaiming and repayment procedure.

There is a more general argument for charging, that it makes possible a wider range of choice of sources of supply. In a "free" system, demand is likely to be as evenly distributed as possible among countries, since no country would be willing to accept a very high proportion of demand if it had to incur all the costs of dealing with it. This could rule out major supply centres, whether worldwide or regional.

4.8 Probable developments in national systems

International availability, unless it is to rely on a few supply centres, depends much more on the efficiency of national systems than on anything else, and the pace and nature of their development are therefore important factors. In theory, national systems can be improved to a level where they can achieve a high satisfaction of national demand. All national systems will not be developed equally, even if countries are equally wealthy in relation to their population, because they cannot all justify systems of the same level: the unit cost per loan increases as the demand diminishes. A central collection adequate for a population of 50 million is adequate, with some duplication, for 250 million. The same collection is scarcely too large for a population of 5 million. However, a country with a population of 5 million could hardly justify a collection of this magnitude because the volume of its demand will be relatively small. An expenditure of 20 million dollars may be acceptable for a demand of 2 million, but not for a demand of 200,000.

Even in an "ideal" world, therefore, where all countries were equally developed and wealthy, some countries would have much better systems of supply than others, and this situation will not change unless countries become equal in size as well as development. In the real world, there will be additional factors tending towards inequality, and favouring the nations which account, and will probably continue to account, for a high proportion of all published material. Any plan for improved worldwide availability must take this inequality into account.

At the same time, systems able to give a good national service would be able also to serve other countries, and it can be expected that eventually many countries will have good national systems. There would thus be few countries that had systems able to serve none but themselves. Improvement in national systems therefore greatly extends the range of possibilities for extending international availability, without in any way reducing the need for it. Indeed, as argued in Section 1, improvements in national availability are likely to stimulate demand to a level where more rather than fewer demands have to be made on other countries. How far plans for improving worldwide availability can be based on the assumption that many countries will substantially improve their national systems is open to question. In the long term, it might be expected that most countries could be persuaded, by economic factors if nothing else, to develop systems able to satisfy a high proportion of demand quickly. However, such improvements cannot be planned internationally, nor will they be achieved quickly; they must be left to individual countries. It would certainly be unwise to assume that improvements will happen and

to do nothing meanwhile to improve worldwide availability. Increased worldwide availability should not of course reduce the incentive of countries to improve their own systems, and the danger that this might happen can in any case be averted by putting international transactions on a sound economic basis.

What is perhaps most likely to happen, especially if no action is proposed at the international level, is the rapid improvement of national availability in countries with an existing or potential very large demand. All of these countries need or will need greatly improved systems to serve their own needs; in some cases, improvements could be achieved quite rapidly, since collections already exist that could, if organized for the purpose, provide an excellent interlending service.

4.9 Developments in technology

Technological forecasting is always a risky exercise. Developments that seem promising may reach an apparent dead end - holographic storage, from which so much was hoped, may be an example of this; other developments that seemed to have reached a dead end some years ago, like videodiscs, suddenly gain a new lease of life.

Microfilms have never attained the prominence prophesied for them for decades. Facsimile transmission has so far been disappointing, but the hopes once pinned on analogue transmission are now attached to digital transmission. Totally new breakthroughs are by definition unpredictable.

Whether technological developments occur, and at what pace, depends only partly on scientific and technical progress: at least as important as determinants are social and economic (and sometimes political) forces, which can accelerate, decelerate or entirely halt advances. The acceptability of new inventions can affect their economics dramatically. The interaction of forces of unknown nature and strength with uncertain technological advances is bound to make prophecy difficult at best.

The most important technological developments so far as international availability is concerned are in storage and transmission of documents.

Analogue transmission, as noted above, has not advanced as rapidly, in either speed or quality, as expected: it may be adequate to transmit a few pages of typescript, but the transmission of large numbers of densely printed pages is a different matter. At present, to transmit a page in acceptable quality takes not less than two minutes, not counting connect time. Two minutes a page means twenty minutes for an average article - three articles an hour, 30 in a 10-hour day. The cost is also high, and increases with distance. Moreover, a page has to be copied before it can be fed into the machine at all. Transmission is better via coaxial cable - which means a dedicated line - than along conventional telephone lines, but the prospect of direct connection of this kind between libraries in many different countries is not good. Doubtless improvements will occur, but they would have to be very large ones to make analogue transmission a good proposition within the next decade or two.

Rapid transmission can be much more readily achieved from different physical forms of storage than the printed page. Several condensed and easily transmitted forms of storage already exist. The problem with these is that unless documents are in these forms already, they have to be converted. In future, it can be expected that a rapidly increasing proportion of published material will pass through a digital form, even if the end product is a more or less conventional printed document.

If the digital forms are preserved, in such a way that subsequent retrieval of specific items is easily possible, transmission along conventional telephone lines is not difficult. The required transmitters and receivers will come down in cost if the market is large enough, and within a decade most cities and many individual libraries, in developing as well as developed countries, will be equipped with the appropriate machinery. Since most users will almost certainly prefer to read documents in a more or less conventional form, and many will not have access to receivers/printers, high quality and high speed printing devices may be located in a number of reception/distribution centres which serve other libraries and individual users throughout the country.

New storage media change the situation in a different way. The fact that they can be reproduced cheaply opens the possibility that libraries will be able to acquire vastly more material for no more than they spend now. Whether they will be sold cheaply depends on the producers, who will have at least to recover all their costs, and on the market. One can however envisage libraries that can supply a much higher proportion of their users' needs than at present and that therefore need to place much less reliance on other sources of supply. Where reliance on other sources is necessary, many items may be supplied in digital form and converted to conventional print-on-paper at the receiving end.

None of these developments make existing printed documents more available unless they are converted to a suitable form of storage. Conversion is of course already possible, but rapid and economic conversion is not an immediate prospect, especially as the pressures for such conversion are not strong, and the market - mainly libraries - is neither very large nor wealthy. If cheap conversion did develop, it could transform national provision, since major libraries could strengthen their back stocks enormously, and it could greatly extend availability within and between countries because the information could be easily transmitted.

The economics of producing documents in or via digital or other machine-readable form are favourable, the economics of transmission rather less so. One would nevertheless expect a fair proportion of scientific and technical journals to be accessible in this form within a decade, and a much larger proportion of all kinds of literature by the year 2000. The widespread sale of such physical forms as videodiscs containing recorded knowledge (as opposed to entertainment matter) may be a much later development, unlikely to affect the situation profoundly for perhaps 20 years. Conversion of existing documents to digital or other machine-readable form will probably be very slow and affect only a small proportion of published literature.

It may be concluded that present modes of storage - print-on-paper supplemented by microfilm - and of transmission - mail, supplemented in very urgent cases by analogue facsimile transmission(1) - will remain dominant for at least a decade, and will continue for at least a further decade to constitute a major element in any system of international availability. Twenty years, probably more, is too long a period to wait to improve international availability.

Technology will affect international availability in a less significant way, since the rapid sending of requests will undoubtedly become more common. Fast transmission can of course already be achieved by use of telex, but it can reasonably be forecast that, as computer terminals increase in number and linkage

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(1) As suggested above, documents may be transmitted in digital form to selected supply centres which distribute them in good printed hard copy to requesters, so that the requesters receive documents by mail as now.

between them becomes easier, telex will give way to computer transmission. One advantage of this is that computer transmission of requests can be (and is already being) linked with the searching of computerized retrieval systems, so that the same records that are retrieved can be transmitted direct to document supply centres. The requests sent in this way are, or should be, bibliographically accurate. They can moreover receive a rapid response if the items are unavailable.

Computer storage of bibliographic records, if library locations are attached to them, makes direct on-line access to union catalogues possible. There are considerable advantages in such access within countries where union catalogues play an important role. Union catalogues of one country can, in principle, be approached by libraries in other countries - as can also computerized catalogues of centralized sources.

Automation also aids the construction and maintenance of union catalogues, not only within countries but between them if necessary. Regional union catalogues are possible, and there is nothing in principle to prevent worldwide union catalogues. The costs of such catalogues would have to be related to their effectiveness. Finally, it should be noted that all of the above developments will reduce the importance of distance still further.

4.10 Time-scale of planning

On what assumptions should any planning be based? The foregoing discussion suggests several conclusions.

In the medium term (say 20 years), improvement can be expected in all or most national systems, but only a few (perhaps up to 10 at the most) countries are likely to develop supply systems on which other countries could rely extensively. In the shorter term (the next 5-10 years) only two or three countries seem likely to establish major supply sources without direct encouragement.

Any plan would take some years to implement, and must therefore be designed to serve a long-term future. At the same time, some improvements could be made without great effort; these should be such as to make the longer term plan easier to implement, and if possible contribute directly to it.

Technology will make requesting easier and faster, and also aid responses to requests (such as "unavailable", "please check reference"). It may eventually make the transfer of documents easier, especially if these are produced in digital form or subsequently digitized. None of these developments will significantly reduce the need to improve availability of conventional documents by more or less traditional means within the next 20 years.

5. ALTERNATIVE MODELS OF INTERNATIONAL AVAILABILITY

5.1 Introduction

With the requirements of an international availability system as listed in 4.2 in mind, various possible patterns of international availability are now examined. The distinction between "copiable" and "non-copiable" materials (see 4.4) is particularly important: patterns of availability suited to the former may not be appropriate to the latter. It is not of course claimed that all possible patterns of availability are taken into account, but it is hoped that the main options have been identified. First consideration is given to current and future publications, and provision for past publications is then considered in this context.

A further distinction is drawn between de jure and de facto sources of international supply. A de jure source would be one that was officially recognized - at government level - by a number of countries or by an international organization, probably established and supported with funds from co-operating countries or from an international agency. A de facto source would be one that did not depend in any way for its existence on formal international recognition.

De jure collections require a very high degree of agreement between countries, and also stability - political, economic and social. The more countries that are involved, the more unlikely such agreement and stability are to be attained. Funding by an international body may be possible for a few years, but not as a permanent solution. De facto collections, on the other hand, evolve in an existing situation, or a situation that suits particular individual countries. No special funds are needed, since the collection's prime function is to serve its own country; any service to other countries is an extension of this service, incurring only operating or transaction costs in addition to the expenditure already incurred.

De jure systems are in principle possible to set up deliberately. De facto systems either exist or they do not: there is little that an international agency or other countries can do except to encourage them. This could be done in two main ways. The first would be to help a particular country within a region to develop its national collection on the understanding that it would offer a service to other countries also. The second way would be to subsidize developing countries making use of a collection, so that the collection recovered at least the costs it incurred in giving the service to other countries, while the user countries were not deterred by expense from using it.

A further distinction may be made between systems that require co-operation to fund, set up and manage, and systems that do not. Other things being equal, systems that do not depend on co-operation have a better chance of continuing success. The first three alternatives considered here require little or no co-operation; the fourth and fifth are entirely dependent on it.

Before alternative possibilities are analysed, the principle should be restated that every country should be able to supply, by loan or photocopy, its national imprints, whether to its own citizens or to other countries. This was accepted some years ago by IFLA as a cardinal principle of UAP, and holds good whatever means are adopted to improve international provision and supply. Moreover, every country should, as stated in IFLA's Principles and Guidelines for international lending, have a national centre or centres through which international requests can be channelled in both directions. Such centres would be only partly effective unless the country had also an efficient national interlending system, which in any cast it needs to serve its own national purposes. National interests and international responsibilities therefore coincide.

5.2 Worldwide collection or collections

It is possible to conceive of a single worldwide collection that served as a backstop to all national availability systems. It would have to be capable of handling at least one million requests a year at present, and up to three million in due course. It would aim to be comprehensive in its coverage and satisfy all requirements. Since distance has little or no effect on speed of supply if air mail is used, it could serve the whole world. Such a collection would be designed specifically for the purpose, and should thus be able to achieve fast supply, efficient operation and economies of scale. It would be very easy to use - all international requests would go to the one source - and monitoring of demand would be simple. It would thus satisfy many of the requirements specified in 4.2. Against the concept of a single total collection would be the impossibility that one centre could achieve anything approaching comprehensive acquisition of the publications of all countries, and the enormous acquisition, processing and storage costs incurred. Most of the stock would be totally unused. Also, the cost of transmitting "non-copiable" items over long distances by air mail would be high.

A more realistic concept is of a "90 per cent" worldwide collection, aiming not at comprehensive coverage but at the ability to satisfy 90 per cent of actual requests. This would be a very much smaller collection. It is known that a high proportion of demand is concentrated on a small proportion of journals, and on certain categories of books - for example, very few requests are made on interlibrary loan for juvenile books, fiction or school textbooks. However, a 90 per cent collection is by definition not a total solution, and it would have to be supported by other systems.

The feasibility of such a collection can to some extent be tested against the British Library Lending Division, which, as stated above, may be handling 50 per cent of all international interloan demand. It can achieve a 90 per cent satisfaction level for current and recent journals, but not for books, even though nearly all demand on it for books is for English-language books, which the Lending Division attempts to acquire fairly comprehensively. It cannot and does not attempt to justify extensive purchase of books in languages other than English, because the national demand for these is small, comprehensive collection is out of the question, and selective acquisition is virtually impossible because the books that will be wanted cannot be predicted. If the Lending Division received requests for books in all languages, its satisfaction rate for books would probably be below 50 per cent. Even if it could justify extensive foreign language book purchase, it would find it impossible to acquire and process the books without agents in different parts of the world and a great deal of linguistic expertise. The Lending Division (or any worldwide collection) could aim at truly comprehensive coverage only if it were given very large financial resources by other countries or by an international agency - if in fact it became a de jure source - or if it recovered all or most of its total costs, which would be very high indeed. Total cost recovery would require such high prices that libraries would inevitably use other sources and thus defeat the whole object of a worldwide source.

Nevertheless, it does seem that a single centre can supply a high percentage of demand for "copiable" materials - journals, reports and conference proceedings - and a fair proportion of demand for English-language books, which constitute only a fraction of "non-copiable" materials. By far the greatest volume of demand on the British Library Lending Division is for "copiable" materials, mainly journals, and its service for these materials is truly worldwide; Japan and Australia, for example, are substantial users of its international photocopy service. Demand for books is very much smaller (less than 5 per cent), and comes almost entirely from Europe.

Quite apart from the problems of building up and maintaining a worldwide collection, a single worldwide source would be too vulnerable to natural or other disasters to be viable as a long-term solution. Nor is it likely that it would be politically acceptable. There is however no reason why there should not be more than one "90 per cent" worldwide collection - possibly three or four, or even more, preferably in different continents. Unless they were set up as de jure collections, they would have to be based on collections built up to supply national needs, like the British Library Lending Division. There would be considerable overlap between them, but each would have the strengths of its particular region; for example, a collection in China would be stronger in Asian journals than one in the U.S.A., and one in Brazil would be stronger in Latin American journals than one in China. If they were de facto collections, they could compete with one another to some extent, while complementing one another for local or regional items. Such collections would concentrate on journals, but would almost certainly include report literature, and possibly conference proceedings. They would not aim at comprehensive collections of books, for the reasons stated above.

As shown in Section 2, several existing centres already offer a worldwide service, although few of them handle a large volume of traffic, and their geographical distribution is very far from ideal: the two largest, the British Library Lending Division and the Centre National de la Recherche Scientifique, are in neighbouring countries, the United Kingdom and France.

Another limited form of worldwide collection would be one concentrating on heavily used "copiable" items, especially journals. A well-selected collection of 8,000 journals could possibly satisfy 80 per cent of world demand for journals, and a collection of 13,000 journals 90 per cent.(1) Since the acquisition, processing and storage costs of such a collection would be relatively modest, it could by attracting a large demand probably recover its total costs without charging excessive fees. Commercial systems somewhat along these lines, as already noted, already exist. The difficulty with such collections is that they would leave a very large quantity of material (though only a relatively small percentage of demand) uncovered, and thus make the task of more comprehensive centres very much more difficult since they would cream off most of the demand from them.

One possible option is for the commercial services to deal with the cheap and easy bulk of demand, leaving libraries to handle the difficult and costly residue which requires the provision of a very much larger quantity of material. This seems unsatisfactory from the viewpoint of libraries and probably from that of users, who would probably have to pay more for the service - more to commercial suppliers than to libraries for high-use journals, and more to libraries for low-use journals because their unit costs would be greatly increased by losing the high-use demand. Developing countries would be particularly badly affected.

There is no reason why any good collection geared to an efficient loan/photocopy service should not offer a worldwide service, so long as it does not claim or attempt to be a total service. The only, though very real, advantages in comprehensiveness as opposed to subject specialization are that comprehensive collections are easier to use (requests do not need to be distributed among several collections), and larger collections can achieve greater economies of scale.

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(1) The 80 per cent and 90 per cent figures in the United Kingdom are respectively 7,500 and 12,500, but a greater scatter would be expected with worldwide demand because more core journals would be available nationally.

5.3 Regional collections

Regional collections could take the form of comprehensive collections in different regions of the world or of collections geared to the needs of different regions. The former alternative would in fact be a worldwide collection, and has been considered above in 5.2. The discussion here therefore concentrates on collections geared to the needs of different regions.

Like worldwide collections, regional collections could be either de jure or de facto. A de facto regional collection would almost certainly be a national collection giving an extended service; there is no reason why this should be confined to the region, although one might expect neighbouring countries to use it in preference to a more remote collection if its service were comparable. A national collection would be geared to the needs of the particular country rather than to the region; the needs of a country and a region would not by any means necessarily be identical. If collections deliberately geared to the needs of particular regions are to be a genuine option, they would almost certainly have to be de jure collections.

Regional collections have several attractions. Different areas of the world have different needs; for example, tropical agriculture and tropical medicine are of limited interest to Northern Europe, nor is experimental research in physics or chemistry of so much interest, at least at present, to South Asia as to North America. Various regions of the world have interests in common that are not shared, or not to the same extent, by other regions. There may also be some linguistic similarity between countries in the same region, although in fact languages tend to be widely dispersed: English, spoken in countries as far apart as New Zealand and Britain, is an obvious example, but French, Spanish and Portuguese are also widely scattered, while neighbouring countries in Asia may speak very different languages (indeed, different languages may be spoken within the same country).

The distances that items have to travel are obviously shorter from a regional collection. However, this is unimportant for speed, and important for cost only where loans rather than photocopies are concerned.

A more substantial advantage is that it is easier for a regional collection than for a worldwide collection to acquire publications produced in the region. Moreover, the range of linguistic expertise required is less.

Countries within a region may be linked by various forms of co-operation - economic, political, or social. Monetary agreements may be a particular advantage.

In spite of the aforementioned advantages, collections deliberately established for the benefit of a region raise several difficult questions. They may be financed initially by an international agency, but continuing support at an appropriate level would be very hard if not impossible to achieve. The agency could help set up a collection and subsidize it in the first few years, after which it would have to be supported in other ways. A given country in a region could normally afford to give a service to other countries on the same terms as to itself only if its national service were totally unsubsidized. The alternative would be support from all of the countries in the region, which might indeed be responsible for setting up the collection in the first place.

However, this solution raises various problems. It requires close and friendly relations between the countries involved, and a high degree of political and economic stability in the region. The decision as to the country in which the collection was to be situated could be difficult. The collection would have to be managed on a continuing basis. Decisions would have to be made as to the

contributions from each of the co-operating countries to the development and maintenance of the collection, and also as to whether services would be provided free or charged for, and if the latter on what basis. These problems are not impossible to resolve, but they require not only a very strong and continuing willingness to co-operate but a sound basis for management.

There are other problems with the concept of regional collections. They could not be comprehensive, for the same reasons why worldwide collections could not be comprehensive. If they were geared primarily to the specific needs of the region, they would devote less attention to other needs, although these could amount to quite a large number in aggregate. For example, a collection concentrating on agriculture and tropical medicine would not be strong in pure physics, let alone French history or Brazilian literature. A fair amount of demand would therefore have to go beyond regional collections to other sources of supply.

The cost advantage that regional collections have over worldwide collections for the loan of "non-copiable" materials may be less than might at first be supposed, because items that have to be loaned rather than copied - mainly books - are the hardest to acquire. A regional collection in Asia would find it much easier to build up a good collection of English-language journals than English-language books, although the latter may be in substantial demand. Against the cost of borrowing over long distances has to be set the even greater cost of acquiring for a regional collection large quantities of books many of which may never be wanted. Regional collections limited to significant publications of countries within the region would obviously be of some value in the region itself, but could be of even more value to other regions of the world.

In fact, the most useful kind of regional collection would be a "worldwide" collection situated within a region, and thus amount to the same kind of solution as outlined in 5.2 above. This would be a de facto collection set up to serve primarily national needs, and would concentrate on "copiable" materials - journals, report literature and possibly conference proceedings. There would be a great deal of duplication between such collections over the world, but so far as high use materials are concerned this would be useful, and it would make the whole system of world provision much less vulnerable. In any case several copies would be needed in the world of high use materials: the only question is whether they are concentrated in one library or scattered among several. The collections would complement one another for low use materials produced in their respective regions.

5.4 Country of publication as main source

Since comprehensive worldwide collections are inconceivable (see above, 5.2), some ultimate provision must be made for supplying the publications of each country, and this can only be the country itself. The UAP principle that every country must be able to supply, by loan or photocopy, its national imprints was restated above (5.1). The only question that concerns us here is whether a country of publication should be used as a last resort, or as a first resort, or somewhere in between.

In theory, a worldwide availability system could depend on direct access to the country of publication, and there need be no worldwide or regional collections. While in theory this would constitute a viable system, in practice there are many disadvantages.

In the first place, requests would have to be very widely distributed among countries, and this would be inconvenient, time-consuming and costly for requesting institutions.

Secondly, large quantities of photocopies would have to travel over long distances in many cases; this need not matter, but so would loans, and this would be costly. However, as we have seen, loans of "non-copiable" materials constitute an extremely difficult problem under any system.

More pragmatically, many if not most countries are not at present geared to a rapid and sufficient supply of materials to other countries. Their library system may not be designed in such a way as to achieve this. Photocopy and microfilming equipment may be inadequate and unreliable. Postal systems may be slow and in some cases unsafe. Although none of these factors should deter every country from developing a loan/photocopy collection or collections of its own publications and efficient means of supplying them, it will be many years before such an ideal is attained.

It should not be thought that the above observations apply only to developing countries. Many countries that have reached a quite advanced stage of economic and industrial development have underdeveloped library systems. (At the same time, some less developed countries have quite effective library systems.)

In fact, there is no point in total dependence on the country of publication as a first resort when there exist good collections in various countries that can probably supply most of the wanted material quickly and simply. The main danger in using these in preference to the country of publication is that they may reduce the incentive for individual countries to improve their own systems. It must therefore be stressed yet again that every country must develop a system capable of supplying its own publications, and an efficient national interlending system, with a national centre or centres through which international requests can be channelled.

5.5 Co-operative systems - worldwide

Another theoretically possible pattern of worldwide availability would be based on an agreement between different countries or regions of the world to share between them the responsibility for acquisition and provision of given categories of books. An extreme example of this would be the pattern considered in the previous subsection, namely that each country would be totally responsible for providing its own publications and all requests would be directed to the country of publication. Alternative possibilities would be allocation of materials among countries or regions by subject or language. For example, the U.S.A. (whether from a central library or by co-operation within the country) could be responsible for all books in English, China for all books in Chinese, and so on.

This option is not a realistic one. It is impossible to imagine how the necessary agreement could be arrived at in the first place, and how such a system could be maintained if it were agreed. Even within countries, co-operative systems have often proved very hard to maintain at a reasonable level of performance for any length of time; the difficulties would be enormously magnified by any attempt at co-operation on a worldwide scale.

International union catalogues can also be ruled out. The costs and problems associated with their construction, let alone their maintenance, would be out of all proportion to any benefit derived from them.

There is however a place for worldwide co-operation, at least as a partial and temporary solution, in the provision of publications in selected subjects (such as agriculture) or forms (such as grey literature) - or a combination of both (e.g. agricultural grey literature). Efforts have been made by several international organizations such as FAO and IAEA, and schemes such as AGRIS and INIS are the

visible products of these efforts. Their effectiveness has not been scientifically assessed, either absolutely or in comparison with possible alternatives, but there is no doubt that they have extended and will continue to extend availability, albeit in limited fields.

5.6 Co-operative systems - regional

Regional co-operation would work in the same way as worldwide co-operation, but on a smaller scale. Each country in a region would undertake to provide, preferably but not necessarily from a central collection, publications within certain specified categories, e.g. by subject, language or country of publication. In Western Europe, for example, one might imagine the United Kingdom having responsibility for all English-language books - by far the largest category - France for all French-language books and in addition, say, books in Japanese, the Federal Republic of Germany for all German-language books and, say, books in Indian languages, and so on. Even on this more limited scale, the barriers to profitable co-operation are formidable. Unless there is some sort of corporate fund which can be allocated between the countries, the whole scheme depends on the voluntary continued acquisition by each country of large quantities of material that it will rarely or never need for its own purposes. The fact that access is guaranteed to similarly rarely used material in neighbouring countries may carry little weight at times of severe economic pressure. The best chance of success such a system would have would be if carefully assessed contributions from each country were put into a central pool from which appropriate resources could then be allocated to different countries or libraries within them.

Obviously any scheme of this kind requires a certain measure of political and economic stability in the region. While some regions may fulfil these conditions, others may not, and as a result some regions of the world will be far better provided for than others. The situation may change for the better in some regions, but there can be no guarantee of this, nor that the situation will not change for the worse in other regions. There is of course no reason why this consideration should deter a particular region from pursuing its own advantage, but the end result would not be truly worldwide availability, unless the region in question served as a source of supply to the rest of the world.

It was stated above that regional co-operative systems would be based preferably but not necessarily on central collections in each country. Many countries do not have central collections, and for all of the countries in the region to set such collections up from scratch could take a considerable time. An alternative would be to build on existing collections which were already strong in the required categories, so that the system would in effect be based on several libraries in each country rather than one in each country. The more libraries that are involved, the more complex the problems of organization and management, although some of the responsibility for this could be delegated to each country rather than handled centrally in the region. Also, as more libraries were involved, the system would become more complicated to use and economies of scale would decline. Monitoring of demand would also be quite difficult.

Yet another system of regional co-operation might be based on regional union catalogues, giving access to the contents of many libraries. These would not in themselves extend provision, but merely facilitate access to existing resources. Union catalogues have been the traditional solution to problems of document access, but experience suggests that even limited central collections have great advantages over them in satisfaction rate, speed of supply, cost, ease of use and monitoring of demand. If this is so within countries, it applies with still greater force

within regions. Although computer-readable records make the construction of the union catalogues and access to them much easier than in the past, the basic deficiencies of co-operative systems involving many libraries are largely unchanged. If all the relevant factors are taken into account, it seems unlikely that regional union catalogues would compare for cost or efficiency with several alternative means of provision and access, for example worldwide or regional collections.

There may be one or two exceptions to this general statement: some countries, such as the Nordic countries, may have such strong linguistic, cultural and political bonds, and may have such political stability that union catalogues may well be practicable. Indeed, a Nordic union catalogue of journals is at an advanced stage of development (see 2.4). Its cost-effectiveness relative to alternative solutions could be assessed only by a detailed study, which so far as is known has not been carried out.

What is said above applies to current and future publications. Central collections can do little to improve the availability of past publications, and for improved access to these union catalogues may offer the only realistic solution. Even then, regional union catalogues would appear to have very little advantage over national union catalogues providing access to the publications of each country.

A need for some political stability within the region has already been mentioned. This is particularly relevant to union catalogues, since groupings of countries into regions may well change, and each country must be able to extract its own records from any co-operative file in the case of any regrouping. With computerized records, it would not be impossible to have union catalogues that changed their contents as libraries moved into and out of regions, but such a situation would be far from optimal.

None of the doubts expressed above should be taken as a criticism of the measures taken by countries in several regions of the world to share resources for the common good. At the very least, these measures show a wholly commendable will to co-operate. Some of these, such as the ASEAN project, which aims to improve availability in five South-East Asian countries (Indonesia, Malaysia, the Philippines, Singapore and Thailand), are funded in their pilot stages by international or foreign funding organizations (in this case the Canadian Internatioanl Development Research Centre). So far such schemes have highlighted the problems of co-operation, notably the financial requirements and organizational difficulties. It is hoped that availability will significantly increase as a result of these efforts. However, general, assessment of all such schemes, whether operational or planned, is an urgent necessity if the important question of their cost-effectiveness is to be answered.

5.7 A hypothetical "ideal" solution

At the beginning of this chapter a distinction was made between "copiable" and "non-copiable" materials, and between current and future publications and past publications. It was also suggested that patterns of availability that might be suitable for one of these major categories might not be suitable for the other.

For journals, and possibly other "copiable" materials, the best "ideal" solution, in terms of the requirements and criteria laid down, seems to be several "worldwide" collections, situated in different parts of the world. They would be de facto collections, that is collections built up by the countries in which they were situated primarily to serve their own needs. For this reason, the countries in question would be ones where the volume of interlibrary loan demand was high, and

where therefore comprehensive collections could be justified. In Western Europe, the United Kingdom already has such a collection, although the Federal Republic of Germany and France might also justify fairly comprehensive collections. In Eastern Europe, the USSR is almost certainly already in a position to offer such a service. In North America, the U.S.A. is the obvious place for such a collection, and a National Periodicals Center has been mooted for several years. In South America, Brazil, with half of the population of the continent, has potentially by far the largest interlibrary loan demand, even though its native language is Portuguese while most of the rest of the continent is Spanish-speaking. In Asia, both India and China potentially have an enormous volume of interlibrary loan demand, as has Japan. In Australasia (from which South-East Asia could also be served), the National Library of Australia already has a very comprehensive collection of journals. In Africa, Nigeria would be the most obvious location. In some of the countries mentioned, for example China, an excellent basis for a worldwide collection already exists, in the form of a very large collection of current journals that could be organized and developed quite easily and rapidly for efficient document supply.

These collections would all aim to be fairly comprehensive, though they need not all attain the same level of comprehensiveness. A collection of 50,000 journals can serve only a slightly larger proportion of demand than a collection of 30,000 journals, while a collection of 13,000 with suitable back runs can satisfy about 90 per cent of demand. Although all the collections would contain high-use and medium-use journals, each would have particular strengths because of its situation, so that they would complement one another and ensure almost total coverage of journals over the world.

There are several attractions in this solution. In the first place, it would serve national as well as international needs. Secondly, no special planning or co-operation would be needed, although some stimulus or encouragement might be desirable, possibly including financial support to developing countries from an international body. The fact that national as well as international needs were being served would help to make the system much more robust than one depending on co-operation, and the overlap would greatly reduce the risk of loss or damage to sources of supply. Since the collections would be set up with the primary purpose of document supply, they should be able to achieve fast and efficient service at reasonable costs.

The direct costs of giving the service at the least would be recovered; even the most altruistic developed country could hardly justify giving a free service to other countries. Shortage of currency might inhibit the use of such collections by some countries, particularly developing ones, and if any international aid were given to improve availability it might best be given to developing countries to help them use other resources. This would almost certainly be a far better use of money than to subsidize the construction of regional union catalogues or other co-operative systems.

Worldwide collections of this kind could coexist with collections like the National Library of Medicine in the U.S.A. and BIREME in São Paulo. There would however seem to be little point in setting up new subject collections of this kind: within limits, the larger the collection the greater the economies of scale and cost-effectiveness. In any case, any country setting up from scratch a document supply centre for its own purposes would almost certainly want to make it comprehensive rather than have different collections for different subjects, if only because subject boundaries are far from clear cut and because some subjects would almost inevitably be covered poorly, if at all, in a subject-based system.

Although several worldwide collections of the kind suggested should achieve almost complete coverage of all the world's current journals, there would almost certainly be a few minor journals that were not collected in this way. For these, requests would be passed to the country of publication, probably through the worldwide centres rather than directly, to aid the centres in monitoring demand and in building up their collections.

National collections would ideally aim to collect back runs of the current journals to which they subscribed, but these would inevitably be incomplete for many titles. For these also, access to the country of publication would be needed. However, there is no reason why the worldwide collections should not also serve as repositories for back runs of journals withdrawn from other libraries, particularly if other libraries have no repository in their own country to which they could send them. This would obviously improve retrospective access, although it would not make occasional access to the country of publication unnecessary.

If libraries wish to play a major part in the national and international supply of journals, national libraries and planning authorities in countries with a large present or potential demand should not delay too long, otherwise the easier and less expensive part of the service - the supply of articles from high-use journals - may well be taken up by commercial operators, leaving libraries with the more difficult and costly part.

If and as digital transmission of articles becomes more widespread, the worldwide centres could continue to serve libraries by receiving articles on demand from the suppliers, printing them out in good quality copies, and distributing the copies to users, many if not most of whom will not have facilities for receiving the articles digitally themselves.

Report literature from countries such as the U.S.A. is relatively easy to acquire, and not excessively costly. Reports produced in other countries are generally far less easily available. The worldwide collections could acquire the large packages comprehensively, and for the remainder reliance would again be placed on the country of publication.

As previously pointed out, conference proceedings are much harder to select and acquire, and the task of collecting them might be confined to one or two of the worldwide collections. Here again, some reliance would still have to be placed on the country of publication.

The other main cateogry is of "non-copiable" materials, mainly books. The worldwide collections might well wish for national purposes to build up collections of certain categories of books in heavy national demand, but these between them would not ensure comprehensive provision. Where the worldwide centres had good collections, these could of course be used, even if this meant the transmission of books over long distances. From the viewpoint of speed, this need not matter if air mail is used Air mail is costly, but distances can only be shortened by comprehensive regional collections of a kind that has already been suggested as unfeasible.

Apart from such books as the worldwide collections can provide, it is difficult to see any reasonable alternative for provision and access other than the country of publication. Costly as this may be on occasion, the number of transactions should not be so great as to make the cost larger than that of regional union catalogues, which would still not provide complete access within regions. For example, the United Kingdom requests about 12,000 books a year from other countries. If it paid the total costs of these (in several cases the charges are waived because transactions are in balance with other countries), they might amount to about £40,000 (c. $80,000).

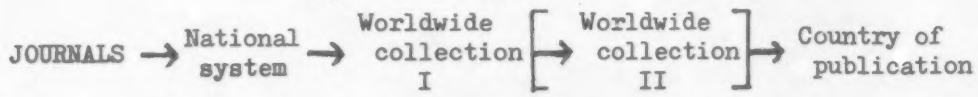
In several cases, the country of publication is quite near, and union catalogues of the holdings of neighbouring countries would not give therefore faster or cheaper access. As for the remainder, many of them would not be held by libraries in neighbouring countries, and the costs of constructing and maintaining union catalogues for access to those that were would be out of all proportion to any benefit therefrom. In short, it must be expected that, under any system, many books that are lent must travel long distances. Short cuts may be possible in some cases; for example, if a neighbouring country has a computerized catalogue of its major libraries, it may be possible to have direct access to that catalogue and locate a library that holds a wanted item published in a distant country. Where these conditions apply, they are obviously helpful, but it would be difficult and unwise to plan a worldwide availability system on assumptions of this sort.

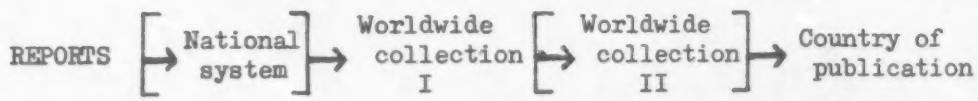
Just as central collections would charge for their services, so libraries in countries of publication should charge for documents supplied to other countries. If the country in question is a large one which produces many publications, it can hardly afford not to charge; if it is a small or developing country, there is still less reason why it should give a free service. This need not prevent two countries in rough balance with one another from waiving charges.

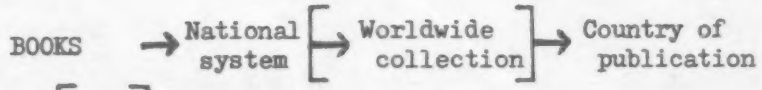
One supplementary aid to the availability of books (and perhaps also journals) may be suggested. Although international union catalogues are not generally recommended, on grounds of both principle and practice, international directories, guiding inquirers to likely major sources of particular categories of material, are a more practical proposition. For example, Finland is an excellent source for books published in Russia up to 1917, and many ex-colonial powers have very good collections of material relating to their former colonies before independence. The feasbility and design of such a directory would be well worth examination.

It is useful to look at the pattern of supply envisaged from the viewpoint of a user library. A library would first use its national system. Assuming that the country had a national centre, as is recommended by IFLA, the centre would pass on unsatisfied requests for journals to its regional worldwide centre. If this failed, the centre would pass on the request to the worldwide centre in the region that included the country of publication of the journal. Finally, the request would be passed to the country of publication itself. The worldwide centres would thus serve as channels as well as supply sources. In the case of books, the national centre would use its judgement as to whether to approach a worldwide centre known or believed to have substantial holdings of the category in question, or to send the request direct to the country of publication, which would in any case act as a last resort.

ROUTING OF REQUESTS







(Brackets [ ] indicate a channel or source that may be omitted. "Worldwide collection I" would normally be the collection in the region if one existed; "Worldwide collection II" would be another collection known or believed to hold the required documents.)

A very rough indication of the sort of supply pattern that might result from this sort of pattern is given in Tables 16 and 17, and in diagrammatic form in Figures 2 and 3. The figures are idealized guesses, and in any case will differ from country to country.

It would be interesting to construct tables for selected countries, using as hard data as could reasonably be obtained.

The machinery needed for the development of such a pattern of availability is slight. No radical new departure is suggested. What is mainly required is further development along existing lines that have proved effective. Several worldwide collections already exist, although some of them are limited in scale or subject range. These collections can be used, as they already are, for the majority of requests. It would be hoped that other countries with a large volume of demand would build up comparable collections, which would gradually increase availability of journals. For improved availability of books, responsibility must lie mainly with the country of publication, a responsibility that is generally accepted in principle. Although several developing countries do not yet have very effective library systems, it should not be too great a task for them to set up loan/photocopy collections of their own publications, which are unlikely to be very numerous for some time. Developed countries surely need to make such provision for their own benefit, if not for that of other countries.

Apart from questions of satisfaction rate, speed and cost, the main arguments in favour of such a system as that outlined above are that it is firmly based on present realities and on systems that have proved effective, and that it avoids all the problems of setting up and maintaining co-operative machinery.

5.8 An alternative strategy

There is a major obstacle to one basic element in the solution outlined above in 5.7. While a pattern of worldwide collections developed by countries with a large potential demand for their own benefit would be based on models that have proved effective and would require no co-operative machinery or (at least after the early stages) external funding, it is ultimately up to individual countries to take action - and however great their national need and however persuasive the arguments in favour of central collections, they may decide not to do so. An alternative strategy needs therefore to be outlined, even if it is less effective and makes less good use of resources. This strategy takes account of present resources and trends and assumes no major change in these.

The use of existing worldwide collections for "copiable" materials would continue, and might increase, simply because these have proved effective. However, alongside them would develop various co-operative systems, based not on international or regional collections but on the distribution of provision among countries and libraries. Participation would have to be voluntary, and existing initiatives would be encouraged except where it became clear that they were not successful or likely to be so. This implies a somewhat disorganized worldwide pattern of provision - strong in some subjects and weak or non-existent in others, strong in some regions and weak or non-existent in others.

At present, both subject and regional coverage of co-operative systems is very limited. The gaps, which are much larger than the areas provided for, need to be identified, and an examination should be conducted to see whether and how they can be filled. At the best, large areas of the world and large subject fields - especially the humanities and social sciences - are likely to attract no special support, either within regions or internationally, because very few funding bodies are concerned with these neglected subject fields.

TABLE 16

HYPOTHETICAL SUPPLY PATTERN FOR JOURNALS

(assuming Telex or computer requesting, and efficiency at each level)

Organization or system receiving/supplying requests	Requests				Total mean supply time (days)	
	Satisfied		Unsatisfied			
	% of requests received	% of total requests	% of requests received	% of total requests	each request	total elapsed time[1]
Local library	70	70	30	30	2	2
National system	80	24	20	6	8[2]	10
Worldwide collection	90	5.4	10	0.6	8	18
Country of publication	90	0.54	10	0.06	20[3]	38

[1] assuming each request goes through all the channels in turn.

[2] assuming efficient central source supplying 50% - 60% in 5 days, backed by decentralized sources supplying 20% - 30% in 15 days.

[3] assuming most of these requests will be more difficult than the norm and will require much use of decentralized sources.

TABLE 17

HYPOTHETICAL SUPPLY SYSTEM FOR BOOKS

(assuming Telex or computer requesting, and efficiency at each level)

Organization or system receiving/supplying requests	Requests				Total mean supply time (days)	
	Satisfied		Unsatisfied			
	% of requests received	% of total requests	% of requests received	% of total requests	each request	total time[1]
Local library	75	75	25	25	2	2
National system	80	20	20	5	13[2]	15
Worldwide collection	60	1.2	40	3.8	10	25
Country of publication	80	3	20	0.8	25[3]	50

[1] assuming each request goes through all the channels in turn.

[2] assuming efficient central source supplying 30% - 40% in 6 days, backed by decentralized sources supplying 40% - 50% in 18 days.

[3] assuming most of these requests will be more difficult than the norm and will require much use of decentralized sources.

FIGURE 2

HYPOTHETICAL SUPPLY PATTERN FOR JOURNALS

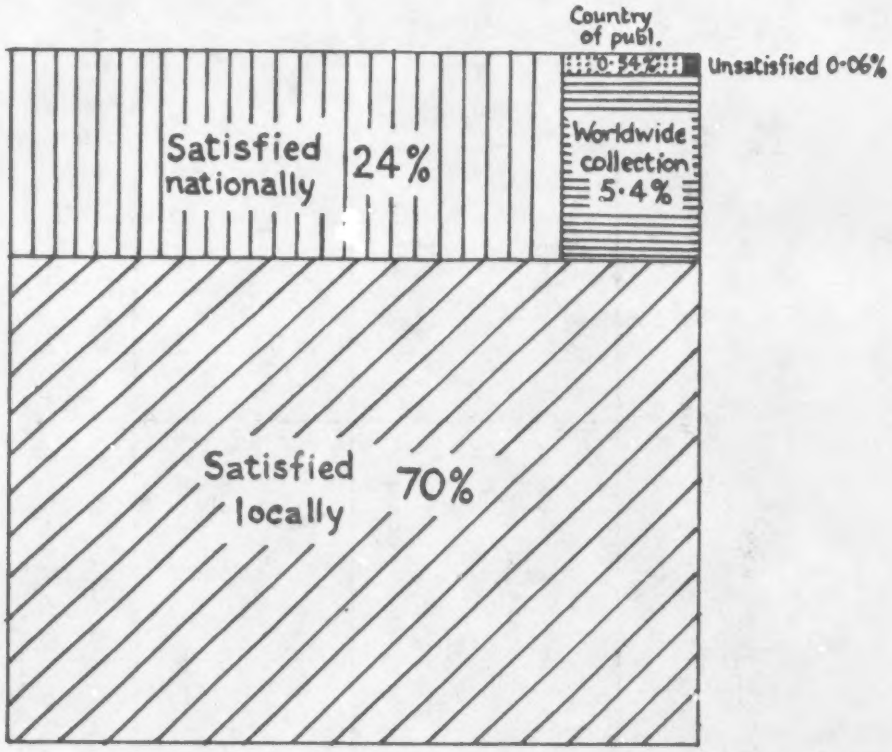
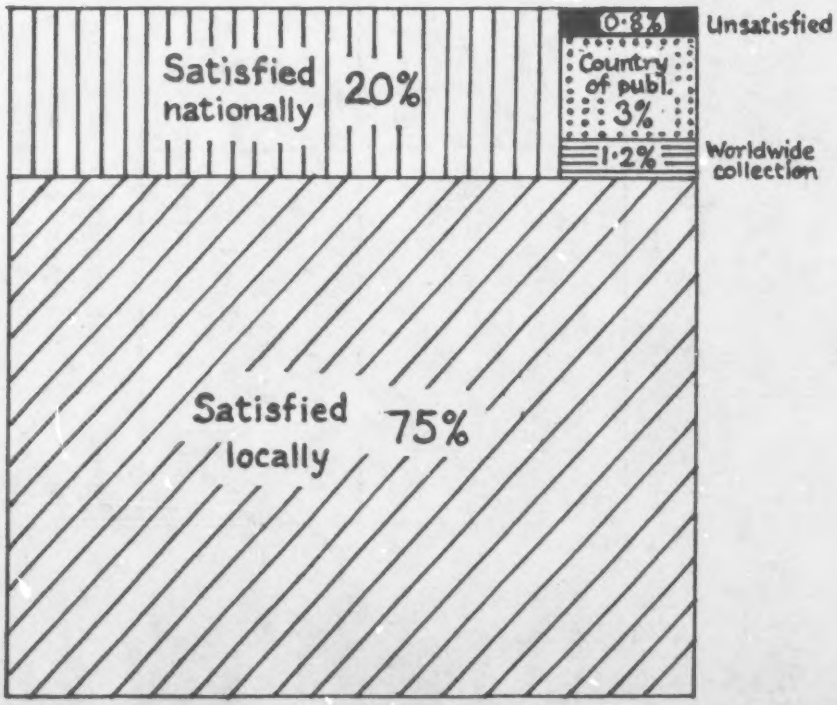


FIGURE 3

HYPOTHETICAL SUPPLY PATTERN FOR BOOKS



At the same time as provision, plans and gaps are identified, a study should be mounted into the feasibility of co-ordinating present and future provision. The difficulties are extremely formidable, but it might be possible to achieve better use of resources by directing funds and effort to neglected areas while avoiding unnecessary overlap. Better links between schemes, and possibly some standardization, might also prove feasible.

As noted above, almost any attempt to improve availability does so, to however slight an extent. The studies proposed should shed invaluable light on the effectiveness of action taken and planned, and may conclude that some existing trends should not be pursued. However, while availability of publications continues to be poor, and pending any more comprehensive worldwide solution, it must be expected that libraries will do the best they can. Their efforts must be encouraged, but it would help both them and others if it can be shown how they might be better directed.

It should be pointed out that while the "ideal" solution requires little or no external funding, the alternative strategy almost certainly requires a good deal.

The above remarks apply mainly to "copiable" materials. The supply by loan of "non-copiable" materials would be much as that outlined in 5.7, except that there would be only one or two worldwide collections. These could be used to some extent, but the main access would be to the country of publication. This alternative strategy would therefore place even more stress on the need for each country to supply its own publications. Since, as stated above, "copiable" materials would be supplied by the one or two worldwide collections and a rather patchy pattern of co-operative provision, there would be a greater demand on the country of publication for "copiable" materials also, though to a far smaller extent than for "non-copiable" materials.

This alternative strategy could be seen either as a long-term alternative or as an interim and partial solution, pending a solution closer to the "ideal" suggested in 5.7. Every country that developed an extensive national collection would change the situation, so that there might be a gradual shift from the alternative strategy towards the "ideal" solution. If and when this happened, the implications for other provision should be studied: it would be wasteful for systems that developed in default of something to continue when they no longer served a significant purpose. This presupposes some body with the responsibility for keeping a watch on developments, an international body or group charged with seeing that the world's information resources are optimally deployed and utilized so far as this can be done.

6. CONCLUSIONS

No improvements in national availability of publications will do away with the need for some system of supply between countries. This need exists not only for publications of the past but for current and future publications. International interlibrary lending and photocopying are already extensive - perhaps one million transactions a year - and are growing rapidly, more rapidly than interlending within countries. This growth will tend to be accelerated, rather than reduced, at least for some years, as countries develop their national acquisition and interlending systems.

About two-thirds of international transactions at present relate to journals. Distance between countries has little or no effect on speed of supply, which is more a function of the efficiency of the libraries involved and the postal systems of the supplying and receiving countries.

Demand, especially for journals, appears to be heavily concentrated on a small number of centres; ten countries may be handling about three-quarters of all transactions, and one centre alone accounts for about half. Almost all of these centres were set up primarily to serve national needs. They evidently offer, for journals, reports and to a lesser extent conference proceedings, a service that is clearly superior to alternative sources of supply in satisfaction rate, speed of supply and ease of use. The charges they make are in general higher than those made by other sources, but the total costs of supply, if elements such as staff time, packing and postage are taken into account, are almost certainly less. It is also evident that the most comprehensive collections attract much more demand.

The problems of developing and maintaining co-operative schemes involving several countries appear to be great and if they are to achieve significant improvements in international availability a proportionately great amount of attention will have to be directed to them.

Countries can hardly be compelled to use one pattern of availability rather than another. If major improvements are to be made in international availability, they can best be achieved by encouraging countries and libraries to take measures that will serve the interests of themselves and others. Total altruism cannot be expected, but mutually beneficial arrangements should be attainable. A better system of provision would improve availability because libraries and countries would obviously tend to use a better system in preference to a worse.

A sound future system should be pragmatic, and if possible be based on the best features of the present situation. Since a limited number of firmly based national centres is already dealing, with apparent success, with such a large volume of demand for journals, it seems sensible to build upon their experience and to recognize not only the inevitability but the desirability of concentrating demand on them.

The present centres do not between them cover all journals, nor are they well distributed, and major improvements could be achieved if a few other countries could be encouraged to create, or develop from existing libraries, major loan/photocopy collections of their own. These should be countries that require or could justify such collections to serve their own national needs, and the degree of comprehensiveness could vary according to needs and resources. They would duplicate one another's holdings in journals where duplication was necessary and complement one another in other journals. They would build up back runs as far as reasonable and possible. Their holdings would never be totally exhaustive, but they would accept all journal

requests and would pass on unsatisfied requests to other major centres or to the country of publication. Reports and conference proceedings may better be provided by a smaller number of centres.

For books, the major centres could provide a partial service, but requests would normally be directed to the country of publication. If countries of publication are to fulfil their role as a last resort for journals and a main source for books, they need to improve their national interlending systems; such improvement is in any case needed for their national purposes. International provision must aim to supplement national provision, not in any way to serve as a substitute for it.

An alternative, less ideal but possibly more realistic, strategy would be to examine existing and planned co-operative schemes of provision, both worldwide and regional, to co-ordinate where possible, to encourage where justifiable and to stimulate new schemes where desirable. For "non-copiable" materials, reliance would be placed mainly on the country of publication. The end result of such a strategy would almost certainly be less satisfactory on almost all counts than a pattern of provision relying largely on a few worldwide collections, if only because provision would at best be very patchy, but availability would undoubtedly be extended, and the strategy could be modified if more worldwide collections were established.

By serving their own needs in the best way, countries can improve international availability. So far from their being any conflict between international and national availability, the two should go in complete harmony. National and international improvements should go hand in hand. The international planning needed to achieve the suggested "ideal" solution is minimal; what is needed is awareness on the part of individual countries of their own best interests, encouragement where appropriate, assistance in planning in some cases, and possibly some financial help in the early stages. For the alternative strategy, both regional and international initiatives are desirable, but external funding is likely to be needed in the early stages at least.

No satisfactory or sound international supply system can exist without payment, of the direct transaction costs at least; the large centres could not afford to operate on any other terms, and small countries cannot be expected to give a free service.

In the nature of this report, and especially of its conclusions, few recommendations can be made, and the following statements should be regarded rather as indications of where action is needed. Some of them duplicate the IFLA Principles and Guidelines.

1. More comprehensive and accurate statistics of international loan and photocopy transactions are required. The IFLA Office for International Lending will continue its efforts to collect them, but in each country some national body should have the responsibility for collecting as complete figures as possible.

2. A national centre (or centres) is needed in each country to monitor demand and serve as necessary as a channel for both incoming and outgoing requests.

3. Countries that have, or may expect to have, a very large volume of interlibrary loan demand should, in their own interests, consider seriously and urgently the establishment of a national document supply centre, concentrating on journals in high and medium demand. The planning of such centres could include provision for supply to other countries.

4. Assistance in planning national supply centres should be given where requested and appropriate. When these are in developing countries, possible sources of funds to aid them in setting up centres should be explored.

5. A detailed study should be carried out, as a matter of some urgency, into existing and planned schemes, both international and regional, for co-operative provision and access to publications. This should identify their nature, organization, coverage, extent of use, present and likely future performance in terms of satisfaction rate and speed of supply, and total cost, as well as the sources of funding and the prospect of continuance. If possible, costs and performance should be compared with alternative means of achieving similar results. The nature and extent of gaps in provision would be identified and possible means of filling them explored.

6. A study should be carried out into the feasibility of co-ordinating existing and planned schemes of provision, with a view to seeing whether and how they might in combination, achieve a better overall supply, by the reduction of unnecessary overlap, by building on strength where possible, and by improving links between the schemes.

7. Assistance in planning should also be given where necessary to developing countries designing and improving national acquisition and interlending systems, so that they can both take full advantage of the international system and contribute to it by supplying at least their own national imprints.

8. All countries should accept the need to pay at least the full direct costs incurred by supplying libraries in providing loans and photocopies. Where appropriate, developing countries should receive financial aid to enable them to obtain publications from other countries. Simplified and improved payment systems should be examined.